Mathematica 11.3 Integration Test Results

Test results for the 358 problems in "4.1.3.1 (a+b sin)^m (c+d sin)^n (A+B sin).m"

Problem 1: Unable to integrate problem.

$$\int (d\,\text{Sin}[e+f\,x])^n\,(a+a\,\text{Sin}[e+f\,x])^3\,(A+B\,\text{Sin}[e+f\,x])\,dx$$

Optimal (type 5, 373 leaves, 7 steps):

$$-\frac{a^3\,\left(B\,\left(27+14\,n+2\,n^2\right)+A\,\left(28+15\,n+2\,n^2\right)\right)\,\text{Cos}[e+f\,x]\,\left(d\,\text{Sin}[e+f\,x]\right)^{1+n}}{d\,f\,\left(2+n\right)\,\left(3+n\right)\,\left(4+n\right)}+\left(a^3\,\left(B\,\left(15+19\,n+4\,n^2\right)+A\,\left(20+21\,n+4\,n^2\right)\right)\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{1+n}{2},\frac{3+n}{2},\text{Sin}[e+f\,x]^2\right]\,\left(d\,\text{Sin}[e+f\,x]\right)^{1+n}\right)\Big/\left(d\,f\,\left(1+n\right)\,\left(2+n\right)\,\left(4+n\right)\,\sqrt{\text{Cos}[e+f\,x]^2}\right)+\left(a^3\,\left(B\,\left(9+4\,n\right)+A\,\left(11+4\,n\right)\right)\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{2+n}{2},\frac{4+n}{2},\text{Sin}[e+f\,x]^2\right]\,\left(d\,\text{Sin}[e+f\,x]\right)^{2+n}\right)\Big/\left(d^2\,f\,\left(2+n\right)\,\left(3+n\right)\,\sqrt{\text{Cos}[e+f\,x]^2}\right)-\frac{a\,B\,\text{Cos}[e+f\,x]\,\left(d\,\text{Sin}[e+f\,x]\right)^{1+n}\,\left(a+a\,\text{Sin}[e+f\,x]\right)^2}{d\,f\,\left(4+n\right)}-\frac{\left(A\,\left(4+n\right)+B\,\left(6+n\right)\right)\,\text{Cos}[e+f\,x]\,\left(d\,\text{Sin}[e+f\,x]\right)^{1+n}\,\left(a^3+a^3\,\text{Sin}[e+f\,x]\right)}{d\,f\,\left(3+n\right)\,\left(4+n\right)}$$

Result (type 9, 68 520 leaves): Display of huge result suppressed!

Problem 2: Unable to integrate problem.

$$\int (d\,\text{Sin}[e+f\,x])^n\,(a+a\,\text{Sin}[e+f\,x])^2\,(A+B\,\text{Sin}[e+f\,x])\,dx$$

Optimal (type 5, 277 leaves, 6 steps):

$$-\frac{a^2\,(A\,(3+n)+B\,(4+n))\,\text{Cos}[e+f\,x]\,(d\,\text{Sin}[e+f\,x])^{1+n}}{d\,f\,(2+n)\,(3+n)}+$$
$$\left(a^2\,(2\,B\,(1+n)+A\,(3+2\,n))\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{1+n}{2},\frac{3+n}{2},\text{Sin}[e+f\,x]^2\right]\right.$$
$$\left.(d\,\text{Sin}[e+f\,x])^{1+n}\right)\Big/\left(d\,f\,(1+n)\,(2+n)\,\sqrt{\text{Cos}[e+f\,x]^2}\right)+$$
$$\left(a^2\,(2\,A\,(3+n)+B\,(5+2\,n))\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{2+n}{2},\frac{4+n}{2},\text{Sin}[e+f\,x]^2\right]\right.$$
$$\left.(d\,\text{Sin}[e+f\,x])^{2+n}\right)\Big/\left(d^2\,f\,(2+n)\,(3+n)\,\sqrt{\text{Cos}[e+f\,x]^2}\right)-$$
$$\frac{B\,\text{Cos}[e+f\,x]\,(d\,\text{Sin}[e+f\,x])^{1+n}\,(a^2+a^2\,\text{Sin}[e+f\,x])}{d\,f\,(3+n)}$$

Result (type 9, 25 571 leaves): Display of huge result suppressed!

Problem 3: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int (d\,\text{Sin}[e+f\,x])^n\,(a+a\,\text{Sin}[e+f\,x])\,(A+B\,\text{Sin}[e+f\,x])\,dx$$

Optimal (type 5, 191 leaves, 5 steps):

$$-\frac{a\,B\,\text{Cos}[e+f\,x]\,(d\,\text{Sin}[e+f\,x])^{1+n}}{d\,f\,(2+n)}+$$
$$\left(a\,(B\,(1+n)+A\,(2+n))\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{1+n}{2},\frac{3+n}{2},\text{Sin}[e+f\,x]^2\right]\right.$$
$$\left.(d\,\text{Sin}[e+f\,x])^{1+n}\right)\Big/\left(d\,f\,(1+n)\,(2+n)\,\sqrt{\text{Cos}[e+f\,x]^2}\right)+$$
$$\frac{a\,(A+B)\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{2+n}{2},\frac{4+n}{2},\text{Sin}[e+f\,x]^2\right]\,(d\,\text{Sin}[e+f\,x])^{2+n}}{d^2\,f\,(2+n)\,\sqrt{\text{Cos}[e+f\,x]^2}}$$

Result (type 5, 392 leaves):

$$-\frac{1}{f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^2} 2^{-2-n} a\, e^{i f n x} \left(1-e^{2 i (e+f x)}\right)^{-n} \left(-i e^{-i (e+f x)} \left(-1+e^{2 i (e+f x)}\right)\right)^n \left(\frac{2 (A+B) e^{-i (e+f (1+n) x)} \text{Hypergeometric2F1}\left[\frac{1}{2}(-1-n), -n, \frac{1-n}{2}, e^{2 i (e+f x)}\right]}{1+n} - \frac{2 (A+B) e^{i (e-f (-1+n) x)} \text{Hypergeometric2F1}\left[\frac{1-n}{2}, -n, \frac{3-n}{2}, e^{2 i (e+f x)}\right]}{-1+n} + i \left(\frac{B e^{-i (2 e+f (2+n) x)} \text{Hypergeometric2F1}\left[-1-\frac{n}{2}, -n, -\frac{n}{2}, e^{2 i (e+f x)}\right]}{2+n} + \frac{1}{(-2+n) n} e^{-i f n x} \left(B e^{2 i (e+f x)} n\, \text{Hypergeometric2F1}\left[1-\frac{n}{2}, -n, 2-\frac{n}{2}, e^{2 i (e+f x)}\right] - 2 (2 A+B) (-2+n) \text{Hypergeometric2F1}\left[-n, -\frac{n}{2}, 1-\frac{n}{2}, e^{2 i (e+f x)}\right]\right)\right)\right) \text{Sin}[e+f x]^{-n} (d\, \text{Sin}[e+f x])^n (1+\text{Sin}[e+f x])$$

Problem 4: Unable to integrate problem.

$$\int \frac{(d\, \text{Sin}[e+f x])^n (A+B\, \text{Sin}[e+f x])}{a+a\, \text{Sin}[e+f x]}\, dx$$

Optimal (type 5, 202 leaves, 4 steps):

$$\left((B-A n+B n) \text{Cos}[e+f x] \text{Hypergeometric2F1}\left[\frac{1}{2}, \frac{1+n}{2}, \frac{3+n}{2}, \text{Sin}[e+f x]^2\right] (d\, \text{Sin}[e+f x])^{1+n}\right) \Big/ \left(a d f (1+n) \sqrt{\text{Cos}[e+f x]^2}\right) + \left((A-B) (1+n) \text{Cos}[e+f x] \text{Hypergeometric2F1}\left[\frac{1}{2}, \frac{2+n}{2}, \frac{4+n}{2}, \text{Sin}[e+f x]^2\right] (d\, \text{Sin}[e+f x])^{2+n}\right) \Big/ \left(a d^2 f (2+n) \sqrt{\text{Cos}[e+f x]^2}\right) + \frac{(A-B) \text{Cos}[e+f x] (d\, \text{Sin}[e+f x])^{1+n}}{d f (a+a\, \text{Sin}[e+f x])}$$

Result (type 8, 35 leaves):

$$\int \frac{(d\, \text{Sin}[e+f x])^n (A+B\, \text{Sin}[e+f x])}{a+a\, \text{Sin}[e+f x]}\, dx$$

Problem 5: Unable to integrate problem.

$$\int \frac{(d\, \text{Sin}[e+f x])^n (A+B\, \text{Sin}[e+f x])}{(a+a\, \text{Sin}[e+f x])^2}\, dx$$

Optimal (type 5, 279 leaves, 5 steps):

$$-\left(\left(n\,(A-2\,A\,n+2\,B\,(1+n))\,\mathrm{Cos}[e+f\,x]\,\mathrm{Hypergeometric2F1}\left[\frac{1}{2},\frac{1+n}{2},\frac{3+n}{2},\mathrm{Sin}[e+f\,x]^2\right]\right.\right.$$
$$\left.\left.(d\,\mathrm{Sin}[e+f\,x])^{1+n}\right)\Big/\left(3\,a^2\,d\,f\,(1+n)\,\sqrt{\mathrm{Cos}[e+f\,x]^2}\right)\right)+$$
$$\left((1+n)\,(B+2\,A\,(1-n)+2\,B\,n)\,\mathrm{Cos}[e+f\,x]\,\mathrm{Hypergeometric2F1}\left[\frac{1}{2},\frac{2+n}{2},\frac{4+n}{2},\mathrm{Sin}[e+f\,x]^2\right]\right.$$
$$\left.(d\,\mathrm{Sin}[e+f\,x])^{2+n}\right)\Big/\left(3\,a^2\,d^2\,f\,(2+n)\,\sqrt{\mathrm{Cos}[e+f\,x]^2}\right)+$$
$$\frac{(B+2\,A\,(1-n)+2\,B\,n)\,\mathrm{Cos}[e+f\,x]\,(d\,\mathrm{Sin}[e+f\,x])^{1+n}}{3\,a^2\,d\,f\,(1+\mathrm{Sin}[e+f\,x])}+$$
$$\frac{(A-B)\,\mathrm{Cos}[e+f\,x]\,(d\,\mathrm{Sin}[e+f\,x])^{1+n}}{3\,d\,f\,(a+a\,\mathrm{Sin}[e+f\,x])^2}$$

Result (type 8, 35 leaves):

$$\int\frac{(d\,\mathrm{Sin}[e+f\,x])^n\,(A+B\,\mathrm{Sin}[e+f\,x])}{(a+a\,\mathrm{Sin}[e+f\,x])^2}\,dx$$

Problem 6: Unable to integrate problem.

$$\int\frac{(d\,\mathrm{Sin}[e+f\,x])^n\,(A+B\,\mathrm{Sin}[e+f\,x])}{(a+a\,\mathrm{Sin}[e+f\,x])^3}\,dx$$

Optimal (type 5, 362 leaves, 6 steps):

$$-\left(\left(n\,\left(B\,(3-n-4\,n^2)+A\,(2-9\,n+4\,n^2)\right)\,\mathrm{Cos}[e+f\,x]\,\mathrm{Hypergeometric2F1}\left[\frac{1}{2},\frac{1+n}{2},\right.\right.\right.$$
$$\left.\left.\left.\frac{3+n}{2},\mathrm{Sin}[e+f\,x]^2\right]\,(d\,\mathrm{Sin}[e+f\,x])^{1+n}\right)\Big/\left(15\,a^3\,d\,f\,(1+n)\,\sqrt{\mathrm{Cos}[e+f\,x]^2}\right)\right)+$$
$$\left((1-n)\,(1+n)\,(7\,A+3\,B-4\,A\,n+4\,B\,n)\,\mathrm{Cos}[e+f\,x]\,\mathrm{Hypergeometric2F1}\left[\right.\right.$$
$$\left.\left.\frac{1}{2},\frac{2+n}{2},\frac{4+n}{2},\mathrm{Sin}[e+f\,x]^2\right]\,(d\,\mathrm{Sin}[e+f\,x])^{2+n}\right)\Big/$$
$$\left(15\,a^3\,d^2\,f\,(2+n)\,\sqrt{\mathrm{Cos}[e+f\,x]^2}\right)+\frac{(A-B)\,\mathrm{Cos}[e+f\,x]\,(d\,\mathrm{Sin}[e+f\,x])^{1+n}}{5\,d\,f\,(a+a\,\mathrm{Sin}[e+f\,x])^3}+$$
$$\frac{(A\,(5-2\,n)+2\,B\,n)\,\mathrm{Cos}[e+f\,x]\,(d\,\mathrm{Sin}[e+f\,x])^{1+n}}{15\,a\,d\,f\,(a+a\,\mathrm{Sin}[e+f\,x])^2}+$$
$$\frac{(1-n)\,(7\,A+3\,B-4\,A\,n+4\,B\,n)\,\mathrm{Cos}[e+f\,x]\,(d\,\mathrm{Sin}[e+f\,x])^{1+n}}{15\,d\,f\,(a^3+a^3\,\mathrm{Sin}[e+f\,x])}$$

Result (type 8, 35 leaves):

$$\int\frac{(d\,\mathrm{Sin}[e+f\,x])^n\,(A+B\,\mathrm{Sin}[e+f\,x])}{(a+a\,\mathrm{Sin}[e+f\,x])^3}\,dx$$

Problem 7: Result more than twice size of optimal antiderivative.

$$\int (d \, \text{Sin}[e+f x])^n (a+a \, \text{Sin}[e+f x])^{5/2} (A+B \, \text{Sin}[e+f x]) \, dx$$

Optimal (type 5, 336 leaves, 6 steps):

$$-\left(\left(2 a^3 \left(2 B \left(115+203 n+104 n^2+16 n^3\right)+A \left(301+478 n+224 n^2+32 n^3\right)\right) \text{Cos}[e+f x] \, \text{Hypergeometric2F1}\left[\frac{1}{2},-n,\frac{3}{2},1-\text{Sin}[e+f x]\right] \text{Sin}[e+f x]^{-n} (d \, \text{Sin}[e+f x])^n\right) \Big/ \left(f (3+2 n) (5+2 n) (7+2 n) \sqrt{a+a \, \text{Sin}[e+f x]}\right)\right) - \left(2 a^3 \left(2 B \left(35+23 n+4 n^2\right)+A \left(77+50 n+8 n^2\right)\right) \text{Cos}[e+f x] (d \, \text{Sin}[e+f x])^{1+n}\right) \Big/ \left(d f (3+2 n) (5+2 n) (7+2 n) \sqrt{a+a \, \text{Sin}[e+f x]}\right) - \left(2 a^2 (2 B (5+n)+A (7+2 n)) \text{Cos}[e+f x] (d \, \text{Sin}[e+f x])^{1+n} \sqrt{a+a \, \text{Sin}[e+f x]}\right) \Big/ \left(d f (5+2 n) (7+2 n)\right) - \frac{2 a B \, \text{Cos}[e+f x] (d \, \text{Sin}[e+f x])^{1+n} (a+a \, \text{Sin}[e+f x])^{3/2}}{d f (7+2 n)}$$

Result (type 5, 791 leaves):

$$\frac{1}{f\sqrt{\operatorname{Sec}\left[\frac{1}{2}(e+fx)\right]^2}\left(\operatorname{Cos}\left[\frac{1}{2}(e+fx)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5}$$

$$2^{1+n}\operatorname{Sec}\left[\frac{1}{2}(e+fx)\right]\operatorname{Sin}[e+fx]^{-n}(d\operatorname{Sin}[e+fx])^n(a(1+\operatorname{Sin}[e+fx]))^{5/2}$$

$$\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]\left(\frac{\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]}{1+\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2}\right)^n\left(1+\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right)^n$$

$$\left(\frac{A\,\text{Hypergeometric2F1}\left[\frac{1+n}{2},\frac{9}{2}+n,\frac{3+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]}{1+n}+\frac{1}{2+n}\right.$$

$$(5A+2B)\,\text{Hypergeometric2F1}\left[1+\frac{n}{2},\frac{9}{2}+n,2+\frac{n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]+$$

$$\frac{1}{3+n}11\,A\,\text{Hypergeometric2F1}\left[\frac{3+n}{2},\frac{9}{2}+n,\frac{5+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2+$$

$$\frac{1}{3+n}10\,B\,\text{Hypergeometric2F1}\left[\frac{3+n}{2},\frac{9}{2}+n,\frac{5+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2+\frac{1}{4+n}$$

$$5(3A+4B)\,\text{Hypergeometric2F1}\left[2+\frac{n}{2},\frac{9}{2}+n,3+\frac{n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^3+$$

$$\frac{1}{5+n}15\,A\,\text{Hypergeometric2F1}\left[\frac{9}{2}+n,\frac{5+n}{2},\frac{7+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^4+$$

$$\frac{1}{5+n}20\,B\,\text{Hypergeometric2F1}\left[\frac{9}{2}+n,\frac{5+n}{2},\frac{7+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^4+$$

$$\frac{1}{6+n}11\,A\,\text{Hypergeometric2F1}\left[3+\frac{n}{2},\frac{9}{2}+n,4+\frac{n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^5+$$

$$\frac{1}{6+n}10\,B\,\text{Hypergeometric2F1}\left[3+\frac{n}{2},\frac{9}{2}+n,4+\frac{n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^5+$$

$$\frac{1}{7+n}5\,A\,\text{Hypergeometric2F1}\left[\frac{9}{2}+n,\frac{7+n}{2},\frac{9+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^6+$$

$$\frac{1}{7+n}2\,B\,\text{Hypergeometric2F1}\left[\frac{9}{2}+n,\frac{7+n}{2},\frac{9+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^6+$$

$$\left.\frac{1}{8+n}A\,\text{Hypergeometric2F1}\left[4+\frac{n}{2},\frac{9}{2}+n,5+\frac{n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^2\right]\operatorname{Tan}\left[\frac{1}{2}(e+fx)\right]^7\right)$$

Problem 8: Result more than twice size of optimal antiderivative.

$$\int(d\operatorname{Sin}[e+fx])^n(a+a\operatorname{Sin}[e+fx])^{3/2}(A+B\operatorname{Sin}[e+fx])\,dx$$

Optimal (type 5, 229 leaves, 5 steps):

$$-\left(\left(2 a^2 \left(2 B \left(9+13 n+4 n^2\right)+A \left(25+30 n+8 n^2\right)\right) \operatorname{Cos}[e+f x]\ \text{Hypergeometric2F1}\left[\frac{1}{2},-n,\frac{3}{2},1-\operatorname{Sin}[e+f x]\right] \operatorname{Sin}[e+f x]^{-n} (d \operatorname{Sin}[e+f x])^n\right) \Big/ \left(f (3+2 n) (5+2 n) \sqrt{a+a \operatorname{Sin}[e+f x]}\right)\right)-\frac{2 a^2 (2 B (3+n)+A (5+2 n)) \operatorname{Cos}[e+f x] (d \operatorname{Sin}[e+f x])^{1+n}}{d f (3+2 n) (5+2 n) \sqrt{a+a \operatorname{Sin}[e+f x]}}-\frac{2 a B \operatorname{Cos}[e+f x] (d \operatorname{Sin}[e+f x])^{1+n} \sqrt{a+a \operatorname{Sin}[e+f x]}}{d f (5+2 n)}$$

Result (type 5, 575 leaves):

$$\frac{1}{f \sqrt{\operatorname{Sec}\left[\frac{1}{2}(e+f x)\right]^2} \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3} 2^{1+n} \operatorname{Sec}\left[\frac{1}{2}(e+f x)\right] \operatorname{Sin}[e+f x]^{-n} (d \operatorname{Sin}[e+f x])^n (a (1+\operatorname{Sin}[e+f x]))^{3/2}$$
$$\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right] \left(\frac{\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]}{1+\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2}\right)^n \left(1+\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right)^n$$
$$\left(\frac{A\ \text{Hypergeometric2F1}\left[\frac{1+n}{2},\frac{7}{2}+n,\frac{3+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right]}{1+n}+\frac{1}{2+n}\right.$$
$$(3 A+2 B)\ \text{Hypergeometric2F1}\left[1+\frac{n}{2},\frac{7}{2}+n,2+\frac{n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right] \operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]+$$
$$\frac{1}{3+n} 4 A\ \text{Hypergeometric2F1}\left[\frac{3+n}{2},\frac{7}{2}+n,\frac{5+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right] \operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2+$$
$$\frac{1}{3+n} 6 B\ \text{Hypergeometric2F1}\left[\frac{3+n}{2},\frac{7}{2}+n,\frac{5+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right] \operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2+\frac{1}{4+n}$$
$$2 (2 A+3 B)\ \text{Hypergeometric2F1}\left[2+\frac{n}{2},\frac{7}{2}+n,3+\frac{n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right] \operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^3+$$
$$\frac{1}{5+n} 3 A\ \text{Hypergeometric2F1}\left[\frac{7}{2}+n,\frac{5+n}{2},\frac{7+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right] \operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^4+$$
$$\frac{1}{5+n} 2 B\ \text{Hypergeometric2F1}\left[\frac{7}{2}+n,\frac{5+n}{2},\frac{7+n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right] \operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^4+$$
$$\left.\frac{1}{6+n} A\ \text{Hypergeometric2F1}\left[3+\frac{n}{2},\frac{7}{2}+n,4+\frac{n}{2},-\operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^2\right] \operatorname{Tan}\left[\frac{1}{2}(e+f x)\right]^5\right)$$

Problem 9: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int (d \operatorname{Sin}[e+f x])^n \sqrt{a+a \operatorname{Sin}[e+f x]}\ (A+B \operatorname{Sin}[e+f x])\, dx$$

Optimal (type 5, 137 leaves, 4 steps):

$$-\left(\left(2 a \left(2 B (1+n)+A (3+2 n)\right) \text{Cos}[e+f x]\, \text{Hypergeometric2F1}\left[\frac{1}{2},-n,\frac{3}{2},1-\text{Sin}[e+f x]\right] \text{Sin}[e+f x]^{-n} \left(d\, \text{Sin}[e+f x]\right)^n\right)\Big/\left(f (3+2 n) \sqrt{a+a\, \text{Sin}[e+f x]}\right)\right)-\frac{2 a B\, \text{Cos}[e+f x] \left(d\, \text{Sin}[e+f x]\right)^{1+n}}{d f (3+2 n) \sqrt{a+a\, \text{Sin}[e+f x]}}$$

Result (type 5, 409 leaves):

$$-\frac{1}{\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]}(1+i)\, 2^{-2-n} e^{-\frac{3 i e}{2}+i f n x} \left(1-e^{2 i (e+f x)}\right)^{-n} \left(-i e^{-i (e+f x)} \left(-1+e^{2 i (e+f x)}\right)\right)^n$$
$$\left(\frac{1}{f (3+2 n)} 2 B e^{-\frac{1}{2} i f (3+2 n) x}\, \text{Hypergeometric2F1}\left[\frac{1}{4}(-3-2 n),-n,\frac{1}{4}(1-2 n),e^{2 i (e+f x)}\right]+\right.$$
$$2 e^{i e} \left(-\frac{1}{f+2 f n} i (2 A+B) e^{-\frac{1}{2} i f (1+2 n) x}\right.$$
$$\text{Hypergeometric2F1}\left[\frac{1}{4}(-1-2 n),-n,\frac{1}{4}(3-2 n),e^{2 i (e+f x)}\right]+\left(e^{\frac{1}{2} i (2 e+f (1-2 n) x)}\right.$$
$$\left(-(2 A+B)(-3+2 n)\, \text{Hypergeometric2F1}\left[\frac{1}{4}(1-2 n),-n,\frac{1}{4}(5-2 n),e^{2 i (e+f x)}\right]+i B\right.$$
$$\left.\left. e^{i (e+f x)} (-1+2 n)\, \text{Hypergeometric2F1}\left[\frac{1}{4}(3-2 n),-n,\frac{1}{4}(7-2 n),e^{2 i (e+f x)}\right]\right)\right)\Big/$$
$$\left.\left.\left(f (-3+2 n)(-1+2 n)\right)\right)\right) \text{Sin}[e+f x]^{-n} \left(d\, \text{Sin}[e+f x]\right)^n \sqrt{a \left(1+\text{Sin}[e+f x]\right)}$$

Problem 10: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(d\, \text{Sin}[e+f x]\right)^n \left(A+B\, \text{Sin}[e+f x]\right)}{\sqrt{a+a\, \text{Sin}[e+f x]}}\, dx$$

Optimal (type 6, 152 leaves, 9 steps):

$$-\left(\left((A-B)\, \text{AppellF1}\left[\frac{1}{2},-n,1,\frac{3}{2},1-\text{Sin}[e+f x],\frac{1}{2}\left(1-\text{Sin}[e+f x]\right)\right]\right.\right.$$
$$\left.\left.\text{Cos}[e+f x]\, \text{Sin}[e+f x]^{-n} \left(d\, \text{Sin}[e+f x]\right)^n\right)\Big/\left(f \sqrt{a+a\, \text{Sin}[e+f x]}\right)\right)-$$
$$\left(2 B\, \text{Cos}[e+f x]\, \text{Hypergeometric2F1}\left[\frac{1}{2},-n,\frac{3}{2},1-\text{Sin}[e+f x]\right] \text{Sin}[e+f x]^{-n} \left(d\, \text{Sin}[e+f x]\right)^n\right)\Big/$$
$$\left(f \sqrt{a+a\, \text{Sin}[e+f x]}\right)$$

Result (type 6, 818 leaves):

$$\frac{1}{f\sqrt{a\,(1+\text{Sin}[e+f\,x])}}\,\text{Sec}[e+f\,x]\,\text{Sin}[e+f\,x]^{-n}\,(d\,\text{Sin}[e+f\,x])^n\,(1+\text{Sin}[e+f\,x])^2$$
$$\Bigg(B\,\text{Sin}[e+f\,x]^n\,\Bigg(\Big(4\,a\,\text{AppellF1}\Big[1,\tfrac{1}{2},-n,2,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x]),1+\text{Sin}[e+f\,x]\Big]\Big)\Big/$$
$$\Big(8\,a\,\text{AppellF1}\Big[1,\tfrac{1}{2},-n,2,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x]),1+\text{Sin}[e+f\,x]\Big]+$$
$$a\,\Big(-4\,n\,\text{AppellF1}\Big[2,\tfrac{1}{2},1-n,3,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x]),1+\text{Sin}[e+f\,x]\Big]+$$
$$\text{AppellF1}\Big[2,\tfrac{3}{2},-n,3,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x]),1+\text{Sin}[e+f\,x]\Big]\Big)\,(1+\text{Sin}[e+f\,x])\Big)+$$
$$\Big((-1+2\,n)\,\text{AppellF1}\Big[-\tfrac{1}{2}-n,-\tfrac{1}{2},-n,\tfrac{1}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{1}{1+\text{Sin}[e+f\,x]}\Big]$$
$$(-1+\text{Sin}[e+f\,x])\Big)\Big/\Big((1+2\,n)$$
$$\Big(2\,\Big(n\,\text{AppellF1}\Big[\tfrac{1}{2}-n,-\tfrac{1}{2},1-n,\tfrac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{1}{1+\text{Sin}[e+f\,x]}\Big]+\text{AppellF1}\Big[$$
$$\tfrac{1}{2}-n,\tfrac{1}{2},-n,\tfrac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{1}{1+\text{Sin}[e+f\,x]}\Big]\Big)+(-1+2\,n)\,\text{AppellF1}\Big[$$
$$-\tfrac{1}{2}-n,-\tfrac{1}{2},-n,\tfrac{1}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{1}{1+\text{Sin}[e+f\,x]}\Big]\,(1+\text{Sin}[e+f\,x])\Big)\Big)\Bigg)+$$
$$A\,\Bigg(\Big(4\,\text{AppellF1}\Big[1,\tfrac{1}{2},-n,2,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x]),1+\text{Sin}[e+f\,x]\Big]\,(-\text{Sin}[e+f\,x])^{-n}$$
$$(-\text{Sin}[e+f\,x]^2)^n\Big)\Big/\Big(8\,\text{AppellF1}\Big[1,\tfrac{1}{2},-n,2,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x]),1+\text{Sin}[e+f\,x]\Big]-$$
$$\Big(4\,n\,\text{AppellF1}\Big[2,\tfrac{1}{2},1-n,3,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x]),1+\text{Sin}[e+f\,x]\Big]-$$
$$\text{AppellF1}\Big[2,\tfrac{3}{2},-n,3,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x]),1+\text{Sin}[e+f\,x]\Big]\Big)\,(1+\text{Sin}[e+f\,x])\Big)-$$
$$\Big((-1+2\,n)\,\text{AppellF1}\Big[-\tfrac{1}{2}-n,-\tfrac{1}{2},-n,\tfrac{1}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{1}{1+\text{Sin}[e+f\,x]}\Big]$$
$$(-1+\text{Sin}[e+f\,x])\,\text{Sin}[e+f\,x]^n\Big)\Big/\Big((1+2\,n)$$
$$\Big(2\,\Big(n\,\text{AppellF1}\Big[\tfrac{1}{2}-n,-\tfrac{1}{2},1-n,\tfrac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{1}{1+\text{Sin}[e+f\,x]}\Big]+\text{AppellF1}\Big[$$
$$\tfrac{1}{2}-n,\tfrac{1}{2},-n,\tfrac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{1}{1+\text{Sin}[e+f\,x]}\Big]\Big)+(-1+2\,n)\,\text{AppellF1}\Big[$$
$$-\tfrac{1}{2}-n,\tfrac{1}{2},-n,\tfrac{1}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{1}{1+\text{Sin}[e+f\,x]}\Big]\,(1+\text{Sin}[e+f\,x])\Big)\Big)\Bigg)\Bigg)$$

Problem 11: Result more than twice size of optimal antiderivative.

$$\int\frac{(d\,\text{Sin}[e+f\,x])^n\,(A+B\,\text{Sin}[e+f\,x])}{(a+a\,\text{Sin}[e+f\,x])^{3/2}}\,dx$$

Optimal (type 6, 226 leaves, 10 steps):

$$\frac{(A-B)\,\mathrm{Cos}[e+f\,x]\,(d\,\mathrm{Sin}[e+f\,x])^{1+n}}{2\,d\,f\,(a+a\,\mathrm{Sin}[e+f\,x])^{3/2}}-\left((A-4\,A\,n+B\,(3+4\,n))\,\mathrm{AppellF1}\left[\frac{1}{2},-n,1,\frac{3}{2},1-\mathrm{Sin}[e+f\,x],\frac{1}{2}\,(1-\mathrm{Sin}[e+f\,x])\right]\mathrm{Cos}[e+f\,x]\,\mathrm{Sin}[e+f\,x]^{-n}\,(d\,\mathrm{Sin}[e+f\,x])^{n}\right)\Big/\left(4\,a\,f\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}\right)-\left((A-B)\,(1+2\,n)\,\mathrm{Cos}[e+f\,x]\,\mathrm{Hypergeometric2F1}\left[\frac{1}{2},-n,\frac{3}{2},1-\mathrm{Sin}[e+f\,x]\right]\mathrm{Sin}[e+f\,x]^{-n}\,(d\,\mathrm{Sin}[e+f\,x])^{n}\right)\Big/\left(2\,a\,f\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}\right)$$

Result (type 6, 1568 leaves):

$$\Bigg(B\,\mathrm{Cos}[e+f\,x]\,\mathrm{Sin}[e+f\,x]^{1+n}\,(d\,\mathrm{Sin}[e+f\,x])^{n}\,(1+\mathrm{Sin}[e+f\,x])\left(\frac{-a+a\,(1+\mathrm{Sin}[e+f\,x])}{a}\right)^{-n}$$

$$\Bigg(\Bigg(4\,a\,\mathrm{AppellF1}\left[1,\frac{1}{2},-n,2,\frac{1}{2}\,(1+\mathrm{Sin}[e+f\,x]),1+\mathrm{Sin}[e+f\,x]\right](1+\mathrm{Sin}[e+f\,x])\Bigg)\Big/$$

$$\Bigg(8\,a\,\mathrm{AppellF1}\left[1,\frac{1}{2},-n,2,\frac{1}{2}\,(1+\mathrm{Sin}[e+f\,x]),1+\mathrm{Sin}[e+f\,x]\right]+$$

$$a\,\Bigg(-4\,n\,\mathrm{AppellF1}\left[2,\frac{1}{2},1-n,3,\frac{1}{2}\,(1+\mathrm{Sin}[e+f\,x]),1+\mathrm{Sin}[e+f\,x]\right]+$$

$$\mathrm{AppellF1}\left[2,\frac{3}{2},-n,3,\frac{1}{2}\,(1+\mathrm{Sin}[e+f\,x]),1+\mathrm{Sin}[e+f\,x]\right]\Bigg)(1+\mathrm{Sin}[e+f\,x])\Bigg)-$$

$$\Bigg((-1+2\,n)\,\mathrm{AppellF1}\left[-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-n,\frac{2}{1+\mathrm{Sin}[e+f\,x]},\frac{1}{1+\mathrm{Sin}[e+f\,x]}\right]$$

$$(1+\mathrm{Sin}[e+f\,x])\,(-2\,a+a\,(1+\mathrm{Sin}[e+f\,x]))\Bigg)\Big/\Bigg((1+2\,n)$$

$$\Bigg(2\,a\,\Bigg(n\,\mathrm{AppellF1}\left[\frac{1}{2}-n,-\frac{1}{2},1-n,\frac{3}{2}-n,\frac{2}{1+\mathrm{Sin}[e+f\,x]},\frac{1}{1+\mathrm{Sin}[e+f\,x]}\right]+\mathrm{AppellF1}\Big[$$

$$\frac{1}{2}-n,\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\mathrm{Sin}[e+f\,x]},\frac{1}{1+\mathrm{Sin}[e+f\,x]}\Big]\Bigg)+a\,(-1+2\,n)\,\mathrm{AppellF1}\Big[$$

$$-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-n,\frac{2}{1+\mathrm{Sin}[e+f\,x]},\frac{1}{1+\mathrm{Sin}[e+f\,x]}\Big](1+\mathrm{Sin}[e+f\,x])\Bigg)\Bigg)+$$

$$\Bigg(2\,(-3+2\,n)\,\mathrm{AppellF1}\left[\frac{1}{2}-n,-\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\mathrm{Sin}[e+f\,x]},\frac{1}{1+\mathrm{Sin}[e+f\,x]}\right]$$

$$(-2\,a+a\,(1+\mathrm{Sin}[e+f\,x]))\Bigg)\Big/\Bigg((-1+2\,n)$$

$$\Bigg(2\,a\,\Bigg(n\,\mathrm{AppellF1}\left[\frac{3}{2}-n,-\frac{1}{2},1-n,\frac{5}{2}-n,\frac{2}{1+\mathrm{Sin}[e+f\,x]},\frac{1}{1+\mathrm{Sin}[e+f\,x]}\right]+\mathrm{AppellF1}\Big[$$

$$\frac{3}{2}-n,\frac{1}{2},-n,\frac{5}{2}-n,\frac{2}{1+\mathrm{Sin}[e+f\,x]},\frac{1}{1+\mathrm{Sin}[e+f\,x]}\Big]\Bigg)+a\,(-3+2\,n)\,\mathrm{AppellF1}\Big[$$

$$\frac{1}{2}-n,-\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\mathrm{Sin}[e+f\,x]},\frac{1}{1+\mathrm{Sin}[e+f\,x]}\Big](1+\mathrm{Sin}[e+f\,x])\Bigg)\Bigg)\Bigg)\Bigg)\Big/$$

$$\Bigg(2\,f\,\sqrt{a\,(1+\mathrm{Sin}[e+f\,x])}\,(-a+a\,(1+\mathrm{Sin}[e+f\,x]))$$

$$\sqrt{\frac{2 a^2 \left(1+\text{Sin}[e+f x]\right)-a^2 \left(1+\text{Sin}[e+f x]\right)^2}{a^2}}$$

$$\left.\sqrt{1-\frac{\left(-a+a \left(1+\text{Sin}[e+f x]\right)\right)^2}{a^2}}\right)+$$

$$\Bigg(A\, \text{Cos}[e+f x] \left(d\, \text{Sin}[e+f x]\right)^n$$

$$\left(1+\text{Sin}[e+f x]\right)$$

$$\left(\frac{-a+a \left(1+\text{Sin}[e+f x]\right)}{a}\right)^{-n}$$

$$\Bigg(\Bigg(4 a^2\, \text{AppellF1}\Big[1,\frac{1}{2},-n,2,\frac{1}{2} \left(1+\text{Sin}[e+f x]\right),1+\text{Sin}[e+f x]\Big]$$

$$\left(-\text{Sin}[e+f x]\right)^{-n} \left(1+\text{Sin}[e+f x]\right) \left(-\frac{\left(a-a \left(1+\text{Sin}[e+f x]\right)\right)^2}{a^2}\right)^n\Bigg)\Big/$$

$$\Bigg(8 a\, \text{AppellF1}\Big[1,\frac{1}{2},-n,2,\frac{1}{2} \left(1+\text{Sin}[e+f x]\right),1+\text{Sin}[e+f x]\Big]+$$

$$a \Bigg(-4 n\, \text{AppellF1}\Big[2,\frac{1}{2},1-n,3,\frac{1}{2} \left(1+\text{Sin}[e+f x]\right),1+\text{Sin}[e+f x]\Big]+$$

$$\text{AppellF1}\Big[2,\frac{3}{2},-n,3,\frac{1}{2} \left(1+\text{Sin}[e+f x]\right),1+\text{Sin}[e+f x]\Big]\Bigg) \left(1+\text{Sin}[e+f x]\right)\Bigg)-$$

$$\Bigg(a \left(-1+2 n\right) \text{AppellF1}\Big[-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\frac{1}{1+\text{Sin}[e+f x]}\Big]$$

$$\text{Sin}[e+f x]^n \left(1+\text{Sin}[e+f x]\right) \left(-2 a+a \left(1+\text{Sin}[e+f x]\right)\right)\Bigg)\Big/\Bigg(\left(1+2 n\right)$$

$$\Bigg(2 a \Bigg(n\, \text{AppellF1}\Big[\frac{1}{2}-n,-\frac{1}{2},1-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\frac{1}{1+\text{Sin}[e+f x]}\Big]+\text{AppellF1}\Big[$$

$$\frac{1}{2}-n,\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\frac{1}{1+\text{Sin}[e+f x]}\Big]\Bigg)+a \left(-1+2 n\right) \text{AppellF1}\Big[$$

$$-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\frac{1}{1+\text{Sin}[e+f x]}\Big] \left(1+\text{Sin}[e+f x]\right)\Bigg)\Bigg)-$$

$$\Bigg(2 a \left(-3+2 n\right) \text{AppellF1}\Big[\frac{1}{2}-n,-\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\frac{1}{1+\text{Sin}[e+f x]}\Big]$$

$$\text{Sin}[e+f x]^n \left(-2 a+a \left(1+\text{Sin}[e+f x]\right)\right)\Bigg)\Big/\Bigg(\left(-1+2 n\right)$$

$$\Bigg(2 a \Bigg(n\, \text{AppellF1}\Big[\frac{3}{2}-n,-\frac{1}{2},1-n,\frac{5}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\frac{1}{1+\text{Sin}[e+f x]}\Big]+\text{AppellF1}\Big[$$

$$\frac{3}{2}-n,\frac{1}{2},-n,\frac{5}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\frac{1}{1+\text{Sin}[e+f x]}\Big]\Bigg)+a \left(-3+2 n\right) \text{AppellF1}\Big[$$

$$\frac{1}{2}-n,-\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\frac{1}{1+\text{Sin}[e+f x]}\Big] \left(1+\text{Sin}[e+f x]\right)\Bigg)\Bigg)\Bigg)\Bigg)\Big/$$

$$\left(2 a^2 f \sqrt{a (1+\text{Sin}[e+f x])} \sqrt{\frac{2 a^2 (1+\text{Sin}[e+f x])-a^2 (1+\text{Sin}[e+f x])^2}{a^2}} \sqrt{1-\frac{(-a+a (1+\text{Sin}[e+f x]))^2}{a^2}}\right)$$

Problem 12: Result more than twice size of optimal antiderivative.

$$\int (d\,\text{Sin}[e+f x])^n (a+a\,\text{Sin}[e+f x])^m (A+B\,\text{Sin}[e+f x])\,dx$$

Optimal (type 6, 221 leaves, 9 steps):

$$-\frac{1}{f}2^{\frac{3}{2}+m} B\,\text{AppellF1}\left[\frac{1}{2},-n,-\frac{1}{2}-m,\frac{3}{2},1-\text{Sin}[e+f x],\frac{1}{2}(1-\text{Sin}[e+f x])\right] \text{Cos}[e+f x]\,\text{Sin}[e+f x]^{-n} (d\,\text{Sin}[e+f x])^n (1+\text{Sin}[e+f x])^{-\frac{1}{2}-m} (a+a\,\text{Sin}[e+f x])^m - \frac{1}{f}2^{\frac{1}{2}+m} (A-B)\,\text{AppellF1}\left[\frac{1}{2},-n,\frac{1}{2}-m,\frac{3}{2},1-\text{Sin}[e+f x],\frac{1}{2}(1-\text{Sin}[e+f x])\right] \text{Cos}[e+f x]\,\text{Sin}[e+f x]^{-n} (d\,\text{Sin}[e+f x])^n (1+\text{Sin}[e+f x])^{-\frac{1}{2}-m} (a+a\,\text{Sin}[e+f x])^m$$

Result (type 6, 5918 leaves):

$$-\Bigg(\Bigg(6\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1-2m}\left(\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-2-m} \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right] (d\,\text{Sin}[e+f x])^n (a+a\,\text{Sin}[e+f x])^m$$
$$\left(A\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m} \text{Sin}[e+f x]^n + B\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m} \text{Sin}[e+f x]^{1+n}\right)$$
$$\Bigg(\Bigg((A-B)\,\text{AppellF1}\left[\frac{1}{2},-n,1+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg/$$
$$\Bigg(3\,\text{AppellF1}\left[\frac{1}{2},-n,1+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] - 2\Bigg(n\,\text{AppellF1}\left[\frac{3}{2},1-n,1+m+n,\frac{5}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] + (1+m+n)\,\text{AppellF1}\left[\frac{3}{2},-n,2+m+n,\frac{5}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg) +$$
$$\Bigg(2\,B\,\text{AppellF1}\left[\frac{1}{2},-n,2+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\Bigg/$$
$$\Bigg(3\,\text{AppellF1}\left[\frac{1}{2},-n,2+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] -$$
$$2\Bigg(n\,\text{AppellF1}\left[\frac{3}{2},1-n,2+m+n,\frac{5}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$
\begin{aligned}
&-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+(2+m+n)\,\mathrm{AppellF1}\Big[\frac{3}{2},-n,3+m+n,\frac{5}{2},\\
&\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\,\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)\Big)\Big/\\
&\Big(f\,\Big(3\left(\mathrm{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-1-m}\mathrm{Sin}[e+f x]^n\,\Big(\Big((A-B)\,\mathrm{AppellF1}\Big[\frac{1}{2},-n,1+m+n,\\
&\frac{3}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\mathrm{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big/\\
&\Big(3\,\mathrm{AppellF1}\Big[\frac{1}{2},-n,1+m+n,\frac{3}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]-\\
&2\,\Big(n\,\mathrm{AppellF1}\Big[\frac{3}{2},1-n,1+m+n,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\\
&-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+(1+m+n)\,\mathrm{AppellF1}\Big[\frac{3}{2},-n,2+m+n,\frac{5}{2},\\
&\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\,\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+\\
&\Big(2\,B\,\mathrm{AppellF1}\Big[\frac{1}{2},-n,2+m+n,\frac{3}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\\
&-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\Big/\\
&\Big(3\,\mathrm{AppellF1}\Big[\frac{1}{2},-n,2+m+n,\frac{3}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]-\\
&2\,\Big(n\,\mathrm{AppellF1}\Big[\frac{3}{2},1-n,2+m+n,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\\
&-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+(2+m+n)\,\mathrm{AppellF1}\Big[\frac{3}{2},-n,3+m+n,\frac{5}{2},\mathrm{Tan}\Big[\\
&\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\,\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)-\\
&6\,n\,\mathrm{Cos}[e+f x]\left(\mathrm{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-2-m}\mathrm{Sin}[e+f x]^{-1+n}\,\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\\
&\Big(\Big((A-B)\,\mathrm{AppellF1}\Big[\frac{1}{2},-n,1+m+n,\frac{3}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\\
&-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\mathrm{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big/\\
&\Big(3\,\mathrm{AppellF1}\Big[\frac{1}{2},-n,1+m+n,\frac{3}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]-\\
&2\,\Big(n\,\mathrm{AppellF1}\Big[\frac{3}{2},1-n,1+m+n,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\\
&-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+(1+m+n)\,\mathrm{AppellF1}\Big[\frac{3}{2},-n,2+m+n,\frac{5}{2},\\
&\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\,\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+\\
&\Big(2\,B\,\mathrm{AppellF1}\Big[\frac{1}{2},-n,2+m+n,\frac{3}{2},\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\\
&-\mathrm{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\Big/
\end{aligned}
$$

$$\left(3\,\text{AppellF1}\left[\frac{1}{2},-n,2+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]-\right.$$

$$2\left(n\,\text{AppellF1}\left[\frac{3}{2},1-n,2+m+n,\frac{5}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(2+m+n)\,\text{AppellF1}\left[\frac{3}{2},-n,3+m+n,\frac{5}{2},\text{Tan}\left[\right.\right.$$

$$\left.\left.\left.\left.\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)+$$

$$6\,(-2-m)\left(\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-2-m}\text{Sin}[e+f\,x]^n\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\left(\left((A-B)\,\text{AppellF1}\left[\frac{1}{2},-n,1+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big/$$

$$\left(3\,\text{AppellF1}\left[\frac{1}{2},-n,1+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]-\right.$$

$$2\left(n\,\text{AppellF1}\left[\frac{3}{2},1-n,1+m+n,\frac{5}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(1+m+n)\,\text{AppellF1}\left[\frac{3}{2},-n,2+m+n,\frac{5}{2},\right.$$

$$\left.\left.\left.\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)+$$

$$\left(2\,B\,\text{AppellF1}\left[\frac{1}{2},-n,2+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\Big/$$

$$\left(3\,\text{AppellF1}\left[\frac{1}{2},-n,2+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]-\right.$$

$$2\left(n\,\text{AppellF1}\left[\frac{3}{2},1-n,2+m+n,\frac{5}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(2+m+n)\,\text{AppellF1}\left[\frac{3}{2},-n,3+m+n,\frac{5}{2},\text{Tan}\left[\right.\right.$$

$$\left.\left.\left.\left.\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)+$$

$$6\left(\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-2-m}\text{Sin}[e+f\,x]^n\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left(\left((A-B)\,\text{AppellF1}\left[\frac{1}{2},-n,1+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\Big/$$

$$\left(3\,\text{AppellF1}\left[\frac{1}{2},-n,1+m+n,\frac{3}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]-\right.$$

$$2\left(n\,\text{AppellF1}\left[\frac{3}{2},1-n,1+m+n,\frac{5}{2},\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(1+m+n)\,\text{AppellF1}\left[\frac{3}{2},-n,2+m+n,\frac{5}{2},\right.$$

$$\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)+$$

$$\Big((A-B)\ \text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big(-\frac{1}{3}\,n\,\text{AppellF1}\Big[\frac{3}{2},\,1-n,\,1+m+n,\,\frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{3}\,(1+m+n)$$

$$\text{AppellF1}\Big[\frac{3}{2},\,-n,\,2+m+n,\,\frac{5}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\ \text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)\Big)\Big/$$

$$\Big(3\,\text{AppellF1}\Big[\frac{1}{2},\,-n,\,1+m+n,\,\frac{3}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]-$$

$$2\,\Big(n\,\text{AppellF1}\Big[\frac{3}{2},\,1-n,\,1+m+n,\,\frac{5}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+(1+m+n)\ \text{AppellF1}\Big[\frac{3}{2},\,-n,\,2+m+n,\,\frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)+$$

$$\Big(2\,B\,\Big(-\frac{1}{3}\,n\,\text{AppellF1}\Big[\frac{3}{2},\,1-n,\,2+m+n,\,\frac{5}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\ \text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{3}$$

$$(2+m+n)\ \text{AppellF1}\Big[\frac{3}{2},\,-n,\,3+m+n,\,\frac{5}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\ \text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)\Big)\Big/$$

$$\Big(3\,\text{AppellF1}\Big[\frac{1}{2},\,-n,\,2+m+n,\,\frac{3}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]-$$

$$2\,\Big(n\,\text{AppellF1}\Big[\frac{3}{2},\,1-n,\,2+m+n,\,\frac{5}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+(2+m+n)\ \text{AppellF1}\Big[\frac{3}{2},\,-n,\,3+m+n,\,\frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)-$$

$$\Big((A-B)\ \text{AppellF1}\Big[\frac{1}{2},\,-n,\,1+m+n,\,\frac{3}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\ \text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\Big(-2\,\Big(n\,\text{AppellF1}\Big[\frac{3}{2},\,1-n,\,1+m+n,\,\frac{5}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+(1+m+n)\ \text{AppellF1}\Big[\frac{3}{2},\,-n,$$

$$2+m+n,\,\frac{5}{2},\,\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)$$

$$\mathrm{Sec}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]+3\,\Big(-\frac{1}{3}\,n\,\mathrm{AppellF1}\Big[\frac{3}{2},$$
$$1-n,\ 1+m+n,\ \frac{5}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$
$$\mathrm{Sec}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]-\frac{1}{3}\,(1+m+n)\ \mathrm{AppellF1}\Big[$$
$$\frac{3}{2},\ -n,\ 2+m+n,\ \frac{5}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$
$$\mathrm{Sec}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]\Big)-2\,\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2$$
$$\Big(n\,\Big(-\frac{3}{5}\,(1+m+n)\ \mathrm{AppellF1}\Big[\frac{5}{2},\ 1-n,\ 2+m+n,\ \frac{7}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$
$$-\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\ \mathrm{Sec}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\mathrm{Tan}\Big[$$
$$\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]+\frac{3}{5}\,(1-n)\ \mathrm{AppellF1}\Big[\frac{5}{2},\ 2-n,\ 1+m+n,\ \frac{7}{2},\ \mathrm{Tan}\Big[\frac{1}{2}$$
$$\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\ \mathrm{Sec}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2$$
$$\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]\Big)+(1+m+n)\ \Big(-\frac{3}{5}\,n\,\mathrm{AppellF1}\Big[\frac{5}{2},\ 1-n,$$
$$2+m+n,\ \frac{7}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$
$$\mathrm{Sec}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]-\frac{3}{5}\,(2+m+n)\ \mathrm{AppellF1}\Big[$$
$$\frac{5}{2},\ -n,\ 3+m+n,\ \frac{7}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$
$$\mathrm{Sec}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]\Big)\Big)\Big)\Big)\Big)\Big/$$
$$\Big(3\,\mathrm{AppellF1}\Big[\frac{1}{2},\ -n,\ 1+m+n,\ \frac{3}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$
$$-\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]-2\,\Big(n\,\mathrm{AppellF1}\Big[\frac{3}{2},\ 1-n,\ 1+m+n,$$
$$\frac{5}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+$$
$$(1+m+n)\ \mathrm{AppellF1}\Big[\frac{3}{2},\ -n,\ 2+m+n,\ \frac{5}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$
$$-\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Big)\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big)^2-$$
$$\Big(2\,B\,\mathrm{AppellF1}\Big[\frac{1}{2},\ -n,\ 2+m+n,\ \frac{3}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$
$$\Big(-2\,\Big(n\,\mathrm{AppellF1}\Big[\frac{3}{2},\ 1-n,\ 2+m+n,\ \frac{5}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$
$$-\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+(2+m+n)\ \mathrm{AppellF1}\Big[\frac{3}{2},\ -n,$$
$$3+m+n,\ \frac{5}{2},\ \mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{2}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Big)$$

$$\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]+3\left(-\frac{1}{3} n\, \text{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$1-n,\ 2+m+n,\ \frac{5}{2},\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{3}(2+m+n)\ \text{AppellF1}\left[\right.$$

$$\frac{3}{2},\ -n,\ 3+m+n,\ \frac{5}{2},\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)-2\, \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\left(n\left(-\frac{3}{5}(2+m+n)\ \text{AppellF1}\left[\frac{5}{2},\ 1-n,\ 3+m+n,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\right.$$

$$\left.\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]+\frac{3}{5}(1-n)\ \text{AppellF1}\left[\frac{5}{2},\ 2-n,\ 2+m+n,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{2}\right.\right.$$

$$\left.\left.\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\left.\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)+(2+m+n)\left(-\frac{3}{5} n\, \text{AppellF1}\left[\frac{5}{2},\ 1-n,\right.\right.$$

$$\left.3+m+n,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{3}{5}(3+m+n)\ \text{AppellF1}\left[\right.$$

$$\left.\frac{5}{2},\ -n,\ 4+m+n,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\left.\left.\left.\text{Sec}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\right)\right)\Big/$$

$$\left(3\, \text{AppellF1}\left[\frac{1}{2},\ -n,\ 2+m+n,\ \frac{3}{2},\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-2\left(n\, \text{AppellF1}\left[\frac{3}{2},\ 1-n,\ 2+m+n,\right.\right.$$

$$\left.\frac{5}{2},\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$(2+m+n)\ \text{AppellF1}\left[\frac{3}{2},\ -n,\ 3+m+n,\ \frac{5}{2},\ \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right) \text{Tan}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\Big)\Big)\Big)\Big)$$

Problem 13: Unable to integrate problem.

$$\int (d\, \text{Sin}[e+f x])^n\ (a-a\, \text{Sin}[e+f x])\ (a+a\, \text{Sin}[e+f x])^m\, dx$$

Optimal (type 6, 114 leaves, 4 steps):

$$\left(\text{AppellF1}\left[1+n,-\frac{1}{2},\frac{1}{2}-m,2+n,\text{Sin}[e+fx],-\text{Sin}[e+fx]\right]\text{Sec}[e+fx]\,(d\,\text{Sin}[e+fx])^{1+n}\,(1+\text{Sin}[e+fx])^{\frac{1}{2}-m}\,(a-a\,\text{Sin}[e+fx])\,(a+a\,\text{Sin}[e+fx])^m\right)\Big/\left(d\,f\,(1+n)\,\sqrt{1-\text{Sin}[e+fx]}\right)$$

Result (type 8, 36 leaves):

$$\int (d\,\text{Sin}[e+fx])^n\,(a-a\,\text{Sin}[e+fx])\,(a+a\,\text{Sin}[e+fx])^m\,dx$$

Problem 14: Result more than twice size of optimal antiderivative.

$$\int \text{Sin}[c+dx]^n\,(a+a\,\text{Sin}[c+dx])^{-2-n}\,(-1-n-(-2-n)\,\text{Sin}[c+dx])\,dx$$

Optimal (type 3, 37 leaves, 1 step):

$$-\frac{\text{Cos}[c+dx]\,\text{Sin}[c+dx]^{1+n}\,(a+a\,\text{Sin}[c+dx])^{-2-n}}{d}$$

Result (type 3, 107 leaves):

$$-\frac{1}{d}2^n\,\text{Sin}\left[\frac{1}{2}(c+dx)\right]\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)\left(\text{Cos}\left[\frac{1}{4}(c+dx)\right]\left(-\text{Sin}\left[\frac{1}{4}(c+dx)\right]+\text{Sin}\left[\frac{3}{4}(c+dx)\right]\right)\right)^n\,(1+\text{Cos}[c+dx]-\text{Sin}[c+dx])\,(a\,(1+\text{Sin}[c+dx]))^{-2-n}$$

Problem 21: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+fx])\,(A+B\,\text{Sin}[e+fx])}{c-c\,\text{Sin}[e+fx]}\,dx$$

Optimal (type 3, 56 leaves, 4 steps):

$$-\frac{a\,(A+2B)\,x}{c}+\frac{a\,B\,\text{Cos}[e+fx]}{c\,f}+\frac{2\,a\,(A+B)\,\text{Cos}[e+fx]}{f\,(c-c\,\text{Sin}[e+fx])}$$

Result (type 3, 125 leaves):

$$\left(a\left(-(A+2B)\,x+\frac{B\,\text{Cos}[e]\,\text{Cos}[fx]}{f}-\frac{B\,\text{Sin}[e]\,\text{Sin}[fx]}{f}+\frac{4\,(A+B)\,\text{Sin}\left[\frac{fx}{2}\right]}{f\left(\text{Cos}\left[\frac{e}{2}\right]-\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)}\right)(1+\text{Sin}[e+fx])\right)\Big/\left(c\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^2\right)$$

Problem 22: Result more than twice size of optimal antiderivative.

$$\int \frac{(a + a \operatorname{Sin}[e + f x]) (A + B \operatorname{Sin}[e + f x])}{(c - c \operatorname{Sin}[e + f x])^2} \, dx$$

Optimal (type 3, 72 leaves, 4 steps):

$$\frac{a B x}{c^2} - \frac{a (A + 7 B) \operatorname{Cos}[e + f x]}{3 c^2 f (1 - \operatorname{Sin}[e + f x])} + \frac{2 a (A + B) \operatorname{Cos}[e + f x]}{3 f (c - c \operatorname{Sin}[e + f x])^2}$$

Result (type 3, 160 leaves):

$$-\left(\left(a \left(-9 B f x \operatorname{Cos}\left[\frac{f x}{2}\right] - 6 (A + 3 B) \operatorname{Cos}\left[e + \frac{f x}{2}\right] + 2 A \operatorname{Cos}\left[e + \frac{3 f x}{2}\right] + 14 B \operatorname{Cos}\left[e + \frac{3 f x}{2}\right] + 3 B f x \operatorname{Cos}\left[2 e + \frac{3 f x}{2}\right] + 24 B \operatorname{Sin}\left[\frac{f x}{2}\right] + 9 B f x \operatorname{Sin}\left[e + \frac{f x}{2}\right] + 3 B f x \operatorname{Sin}\left[e + \frac{3 f x}{2}\right]\right)\right) \Big/ \left(6 c^2 f \left(\operatorname{Cos}\left[\frac{e}{2}\right] - \operatorname{Sin}\left[\frac{e}{2}\right]\right) \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)^3\right)\right)$$

Problem 32: Result more than twice size of optimal antiderivative.

$$\int \frac{(a + a \operatorname{Sin}[e + f x])^2 (A + B \operatorname{Sin}[e + f x])}{(c - c \operatorname{Sin}[e + f x])^2} \, dx$$

Optimal (type 3, 109 leaves, 5 steps):

$$\frac{a^2 (A + 4 B) x}{c^2} - \frac{a^2 (A + 4 B) \operatorname{Cos}[e + f x]}{c^2 f} + \frac{a^2 (A + B) c^2 \operatorname{Cos}[e + f x]^5}{3 f (c - c \operatorname{Sin}[e + f x])^4} - \frac{2 a^2 (A + 4 B) \operatorname{Cos}[e + f x]^3}{3 f (c - c \operatorname{Sin}[e + f x])^2}$$

Result (type 3, 238 leaves):

$$\frac{1}{3 f \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] + \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)^4 (c - c \operatorname{Sin}[e + f x])^2} a^2 \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) \left(4 (A + B) \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) + 3 (A + 4 B) (e + f x) \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)^3 - 3 B \operatorname{Cos}[e + f x] \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)^3 + 8 (A + B) \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right] - 8 (2 A + 5 B) \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)^2 \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) (1 + \operatorname{Sin}[e + f x])^2$$

Problem 33: Result more than twice size of optimal antiderivative.

$$\int \frac{(a + a \operatorname{Sin}[e + f x])^2 (A + B \operatorname{Sin}[e + f x])}{(c - c \operatorname{Sin}[e + f x])^3} \, dx$$

Optimal (type 3, 112 leaves, 5 steps):

$$-\frac{a^2 B x}{c^3}+\frac{a^2 (A+B) c^2 \operatorname{Cos}[e+f x]^5}{5 f (c-c \operatorname{Sin}[e+f x])^5}-\frac{2 a^2 B \operatorname{Cos}[e+f x]^3}{3 f (c-c \operatorname{Sin}[e+f x])^3}+\frac{2 a^2 B \operatorname{Cos}[e+f x]}{f \left(c^3-c^3 \operatorname{Sin}[e+f x]\right)}$$

Result (type 3, 278 leaves):

$$\frac{1}{15 f \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 (c-c \operatorname{Sin}[e+f x])^3} a^2 \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right) \left(12 (A+B) \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)- 4 (3 A+8 B) \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3- 15 B (e+f x) \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5+24 (A+B) \operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]- 8 (3 A+8 B) \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 \operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]+ 2 (3 A+43 B) \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 \operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right) (1+\operatorname{Sin}[e+f x])^2$$

Problem 34: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a \operatorname{Sin}[e+f x])^2 (A+B \operatorname{Sin}[e+f x])}{(c-c \operatorname{Sin}[e+f x])^4} \, dx$$

Optimal (type 3, 75 leaves, 3 steps):

$$\frac{a^2 (A+B) c^2 \operatorname{Cos}[e+f x]^5}{7 f (c-c \operatorname{Sin}[e+f x])^6}+\frac{a^2 (A-6 B) c \operatorname{Cos}[e+f x]^5}{35 f (c-c \operatorname{Sin}[e+f x])^5}$$

Result (type 3, 191 leaves):

$$-\left(\left(a^2 \left(-35 (A+4 B) \operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+7 (2 A+13 B) \operatorname{Cos}\left[\frac{3}{2}(e+f x)\right]+35 B \operatorname{Cos}\left[\frac{5}{2}(e+f x)\right]+ A \operatorname{Cos}\left[\frac{7}{2}(e+f x)\right]-6 B \operatorname{Cos}\left[\frac{7}{2}(e+f x)\right]-70 A \operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]+70 B \operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]- 35 A \operatorname{Sin}\left[\frac{3}{2}(e+f x)\right]+35 B \operatorname{Sin}\left[\frac{3}{2}(e+f x)\right]+7 A \operatorname{Sin}\left[\frac{5}{2}(e+f x)\right]-7 B \operatorname{Sin}\left[\frac{5}{2}(e+f x)\right]\right)\right) \Big/ \left(140 c^4 f \left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7\right)\right)$$

Problem 35: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a \operatorname{Sin}[e+f x])^2 (A+B \operatorname{Sin}[e+f x])}{(c-c \operatorname{Sin}[e+f x])^5} \, dx$$

Optimal (type 3, 115 leaves, 4 steps):

$$\frac{a^2 (A+B) c^2 \text{Cos}[e+f x]^5}{9 f (c-c \text{Sin}[e+f x])^7}+\frac{a^2 (2 A-7 B) c \text{Cos}[e+f x]^5}{63 f (c-c \text{Sin}[e+f x])^6}+\frac{a^2 (2 A-7 B) \text{Cos}[e+f x]^5}{315 f (c-c \text{Sin}[e+f x])^5}$$

Result (type 3, 261 leaves):

$$-\frac{1}{2520 c^5 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4 (-1+\text{Sin}[e+f x])^5}$$
$$a^2 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right) (1+\text{Sin}[e+f x])^2$$
$$\left(315 (2 A+3 B) \text{Cos}\left[\frac{1}{2} (e+f x)\right]-63 (4 A+11 B) \text{Cos}\left[\frac{3}{2} (e+f x)\right]-315 B \text{Cos}\left[\frac{5}{2} (e+f x)\right]-\right.$$
$$18 A \text{Cos}\left[\frac{7}{2} (e+f x)\right]+63 B \text{Cos}\left[\frac{7}{2} (e+f x)\right]+882 A \text{Sin}\left[\frac{1}{2} (e+f x)\right]+$$
$$63 B \text{Sin}\left[\frac{1}{2} (e+f x)\right]+420 A \text{Sin}\left[\frac{3}{2} (e+f x)\right]+105 B \text{Sin}\left[\frac{3}{2} (e+f x)\right]-$$
$$\left.72 A \text{Sin}\left[\frac{5}{2} (e+f x)\right]-63 B \text{Sin}\left[\frac{5}{2} (e+f x)\right]+2 A \text{Sin}\left[\frac{9}{2} (e+f x)\right]-7 B \text{Sin}\left[\frac{9}{2} (e+f x)\right]\right)$$

Problem 38: Result more than twice size of optimal antiderivative.

$$\int (a+a \text{Sin}[e+f x])^3 (A+B \text{Sin}[e+f x]) (c-c \text{Sin}[e+f x])^6 \, dx$$

Optimal (type 3, 265 leaves, 9 steps):

$$\frac{11}{256} a^3 (10 A-3 B) c^6 x+\frac{11 a^3 (10 A-3 B) c^6 \text{Cos}[e+f x]^7}{560 f}+$$
$$\frac{11 a^3 (10 A-3 B) c^6 \text{Cos}[e+f x] \text{Sin}[e+f x]}{256 f}+\frac{11 a^3 (10 A-3 B) c^6 \text{Cos}[e+f x]^3 \text{Sin}[e+f x]}{384 f}+$$
$$\frac{11 a^3 (10 A-3 B) c^6 \text{Cos}[e+f x]^5 \text{Sin}[e+f x]}{480 f}-\frac{a^3 B \text{Cos}[e+f x]^7 \left(c^2-c^2 \text{Sin}[e+f x]\right)^3}{10 f}+$$
$$\frac{a^3 (10 A-3 B) \text{Cos}[e+f x]^7 \left(c^3-c^3 \text{Sin}[e+f x]\right)^2}{90 f}+$$
$$\frac{11 a^3 (10 A-3 B) \text{Cos}[e+f x]^7 \left(c^6-c^6 \text{Sin}[e+f x]\right)}{720 f}$$

Result (type 3, 1033 leaves):

$$\left(11\,(10\,A-3\,B)\,(e+f\,x)\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\right)\Big/\left(256\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)+$$

$$\left((33\,A-19\,B)\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\right)\Big/\left(128\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)+$$

$$\left((29\,A-15\,B)\,\mathrm{Cos}[3\,(e+f\,x)]\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\right)\Big/\left(192\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)+$$

$$\left((3\,A-B)\,\mathrm{Cos}[5\,(e+f\,x)]\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\right)\Big/\left(64\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)+$$

$$\left((9\,A+5\,B)\,\mathrm{Cos}[7\,(e+f\,x)]\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\right)\Big/\left(1792\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)-$$

$$\left((A-3\,B)\,\mathrm{Cos}[9\,(e+f\,x)]\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\right)\Big/\left(2304\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)+$$

$$\left((144\,A-25\,B)\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\,\mathrm{Sin}[2\,(e+f\,x)]\right)\Big/\left(512\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)+$$

$$\left((6\,A+7\,B)\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\,\mathrm{Sin}[4\,(e+f\,x)]\right)\Big/\left(256\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)-$$

$$\left((32\,A-51\,B)\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\,\mathrm{Sin}[6\,(e+f\,x)]\right)\Big/\left(3072\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)-$$

$$\left((6\,A-5\,B)\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\,\mathrm{Sin}[8\,(e+f\,x)]\right)\Big/\left(2048\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)-$$

$$\left(B\,(a+a\,\mathrm{Sin}[e+f\,x])^3\,(c-c\,\mathrm{Sin}[e+f\,x])^6\,\mathrm{Sin}[10\,(e+f\,x)]\right)\Big/\left(5120\,f\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^{12}\left(\mathrm{Cos}\left[\tfrac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\tfrac{1}{2}(e+f\,x)\right]\right)^6\right)$$

Problem 46: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a \operatorname{Sin}[e+f x])^3 (A+B \operatorname{Sin}[e+f x])}{(c-c \operatorname{Sin}[e+f x])^3} \, dx$$

Optimal (type 3, 153 leaves, 6 steps):

$$-\frac{a^3 (A+6 B) x}{c^3}+\frac{a^3 (A+6 B) \operatorname{Cos}[e+f x]}{c^3 f}+\frac{a^3 (A+B) c^3 \operatorname{Cos}[e+f x]^7}{5 f (c-c \operatorname{Sin}[e+f x])^6}-\frac{2 a^3 (A+6 B) c \operatorname{Cos}[e+f x]^5}{15 f (c-c \operatorname{Sin}[e+f x])^4}+\frac{2 a^3 (A+6 B) c^3 \operatorname{Cos}[e+f x]^3}{3 f \left(c^3-c^3 \operatorname{Sin}[e+f x]\right)^2}$$

Result (type 3, 316 leaves):

$$\frac{1}{15 f \left(\operatorname{Cos}\left[\frac{1}{2} (e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^6 (c-c \operatorname{Sin}[e+f x])^3}$$
$$a^3 \left(\operatorname{Cos}\left[\frac{1}{2} (e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right) \left(24 (A+B) \left(\operatorname{Cos}\left[\frac{1}{2} (e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right)-\right.$$
$$4 (11 A+21 B) \left(\operatorname{Cos}\left[\frac{1}{2} (e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^3-$$
$$15 (A+6 B) (e+f x) \left(\operatorname{Cos}\left[\frac{1}{2} (e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5+$$
$$15 B \operatorname{Cos}[e+f x] \left(\operatorname{Cos}\left[\frac{1}{2} (e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5+48 (A+B) \operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]-$$
$$8 (11 A+21 B) \left(\operatorname{Cos}\left[\frac{1}{2} (e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^2 \operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]+$$
$$\left.4 (23 A+93 B) \left(\operatorname{Cos}\left[\frac{1}{2} (e+f x)\right]-\operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4 \operatorname{Sin}\left[\frac{1}{2} (e+f x)\right]\right) (1+\operatorname{Sin}[e+f x])^3$$

Problem 47: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a \operatorname{Sin}[e+f x])^3 (A+B \operatorname{Sin}[e+f x])}{(c-c \operatorname{Sin}[e+f x])^4} \, dx$$

Optimal (type 3, 151 leaves, 6 steps):

$$\frac{a^3 B x}{c^4}+\frac{a^3 (A+B) c^3 \operatorname{Cos}[e+f x]^7}{7 f (c-c \operatorname{Sin}[e+f x])^7}-\frac{2 a^3 B c \operatorname{Cos}[e+f x]^5}{5 f (c-c \operatorname{Sin}[e+f x])^5}+\frac{2 a^3 B c^2 \operatorname{Cos}[e+f x]^3}{3 f \left(c^2-c^2 \operatorname{Sin}[e+f x]\right)^3}-\frac{2 a^3 B \operatorname{Cos}[e+f x]}{f \left(c^4-c^4 \operatorname{Sin}[e+f x]\right)}$$

Result (type 3, 356 leaves):

$$\frac{1}{105 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6 (c-c\,\text{Sin}[e+f x])^4}$$
$$a^3 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) \left(120 (A+B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)-\right.$$
$$12 (15 A+29 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3+$$
$$2 (45 A+199 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5+$$
$$105 B (e+f x) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7+240 (A+B)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$24 (15 A+29 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$4 (45 A+199 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$\left.2 (15 A+337 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6 \text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) (1+\text{Sin}[e+f x])^3$$

Problem 48: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^3 (A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^5}\,dx$$

Optimal (type 3, 77 leaves, 3 steps):

$$\frac{a^3 (A+B) c^3 \text{Cos}[e+f x]^7}{9 f (c-c\,\text{Sin}[e+f x])^8}+\frac{a^3 (A-8 B) c^2 \text{Cos}[e+f x]^7}{63 f (c-c\,\text{Sin}[e+f x])^7}$$

Result (type 3, 283 leaves):

$$-\frac{1}{504 c^5 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6 (-1+\text{Sin}[e+f x])^5}$$
$$a^3 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) (1+\text{Sin}[e+f x])^3$$
$$\left(315 (A-B)\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]-189 (A-B)\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]-63 A\,\text{Cos}\left[\frac{5}{2}(e+f x)\right]+\right.$$
$$63 B\,\text{Cos}\left[\frac{5}{2}(e+f x)\right]+9 A\,\text{Cos}\left[\frac{7}{2}(e+f x)\right]-9 B\,\text{Cos}\left[\frac{7}{2}(e+f x)\right]+189 A\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]+693$$
$$B\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]+105 A\,\text{Sin}\left[\frac{3}{2}(e+f x)\right]+483 B\,\text{Sin}\left[\frac{3}{2}(e+f x)\right]-27 A\,\text{Sin}\left[\frac{5}{2}(e+f x)\right]-$$
$$\left.225 B\,\text{Sin}\left[\frac{5}{2}(e+f x)\right]-63 B\,\text{Sin}\left[\frac{7}{2}(e+f x)\right]-A\,\text{Sin}\left[\frac{9}{2}(e+f x)\right]+8 B\,\text{Sin}\left[\frac{9}{2}(e+f x)\right]\right)$$

Problem 49: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\mathrm{Sin}[e+f\,x])^3\,(A+B\,\mathrm{Sin}[e+f\,x])}{(c-c\,\mathrm{Sin}[e+f\,x])^6}\,dx$$

Optimal (type 3, 118 leaves, 4 steps):

$$\frac{a^3\,(A+B)\,c^3\,\mathrm{Cos}[e+f\,x]^7}{11\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^9}+\frac{a^3\,(2\,A-9\,B)\,c^2\,\mathrm{Cos}[e+f\,x]^7}{99\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^8}+\frac{a^3\,(2\,A-9\,B)\,c\,\mathrm{Cos}[e+f\,x]^7}{693\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^7}$$

Result (type 3, 313 leaves):

$$\frac{1}{11088\,c^6\,f\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(-1+\mathrm{Sin}[e+f\,x])^6}$$
$$a^3\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\,(1+\mathrm{Sin}[e+f\,x])^3$$
$$\left(462\,(11\,A+3\,B)\,\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-594\,(5\,A+2\,B)\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-924\,A\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]-\right.$$
$$693\,B\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]+110\,A\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]+198\,B\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]-2\,A\,\mathrm{Cos}\left[\frac{11}{2}\,(e+f\,x)\right]+$$
$$9\,B\,\mathrm{Cos}\left[\frac{11}{2}\,(e+f\,x)\right]+4158\,A\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+5544\,B\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+$$
$$2310\,A\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+4158\,B\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-594\,A\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-$$
$$\left.2178\,B\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-693\,B\,\mathrm{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]-22\,A\,\mathrm{Sin}\left[\frac{9}{2}\,(e+f\,x)\right]+99\,B\,\mathrm{Sin}\left[\frac{9}{2}\,(e+f\,x)\right]\right)$$

Problem 50: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\mathrm{Sin}[e+f\,x])^3\,(A+B\,\mathrm{Sin}[e+f\,x])}{(c-c\,\mathrm{Sin}[e+f\,x])^7}\,dx$$

Optimal (type 3, 156 leaves, 5 steps):

$$\frac{a^3\,(A+B)\,c^3\,\mathrm{Cos}[e+f\,x]^7}{13\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{10}}+\frac{a^3\,(3\,A-10\,B)\,c^2\,\mathrm{Cos}[e+f\,x]^7}{143\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^9}+$$
$$\frac{2\,a^3\,(3\,A-10\,B)\,c\,\mathrm{Cos}[e+f\,x]^7}{1287\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^8}+\frac{2\,a^3\,(3\,A-10\,B)\,\mathrm{Cos}[e+f\,x]^7}{9009\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^7}$$

Result (type 3, 352 leaves):

$$\frac{1}{144144 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6 (c-c\,\text{Sin}[e+f x])^7}$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)(a+a\,\text{Sin}[e+f x])^3$$
$$\left(54054\,A\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]+30030\,B\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]-30888\,A\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]-\right.$$
$$23166\,B\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]-9009\,A\,\text{Cos}\left[\frac{5}{2}(e+f x)\right]-12012\,B\,\text{Cos}\left[\frac{5}{2}(e+f x)\right]+$$
$$858\,A\,\text{Cos}\left[\frac{7}{2}(e+f x)\right]+3146\,B\,\text{Cos}\left[\frac{7}{2}(e+f x)\right]-39\,A\,\text{Cos}\left[\frac{11}{2}(e+f x)\right]+$$
$$130\,B\,\text{Cos}\left[\frac{11}{2}(e+f x)\right]+48906\,A\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]+47190\,B\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$27027\,A\,\text{Sin}\left[\frac{3}{2}(e+f x)\right]+36036\,B\,\text{Sin}\left[\frac{3}{2}(e+f x)\right]-6864\,A\,\text{Sin}\left[\frac{5}{2}(e+f x)\right]-$$
$$19162\,B\,\text{Sin}\left[\frac{5}{2}(e+f x)\right]-6006\,B\,\text{Sin}\left[\frac{7}{2}(e+f x)\right]-234\,A\,\text{Sin}\left[\frac{9}{2}(e+f x)\right]+$$
$$\left.780\,B\,\text{Sin}\left[\frac{9}{2}(e+f x)\right]+3\,A\,\text{Sin}\left[\frac{13}{2}(e+f x)\right]-10\,B\,\text{Sin}\left[\frac{13}{2}(e+f x)\right]\right)$$

Problem 55: Result more than twice size of optimal antiderivative.

$$\int \frac{(A+B\,\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])}{a+a\,\text{Sin}[e+f x]}\,dx$$

Optimal (type 3, 57 leaves, 4 steps):

$$-\frac{(A-2B)\,c\,x}{a}+\frac{B\,c\,\text{Cos}[e+f x]}{a f}-\frac{2\,(A-B)\,c\,\text{Cos}[e+f x]}{f\,(a+a\,\text{Sin}[e+f x])}$$

Result (type 3, 127 leaves):

$$\left(\left(-(A-2B)\,x+\frac{B\,\text{Cos}[e]\,\text{Cos}[f x]}{f}-\frac{B\,\text{Sin}[e]\,\text{Sin}[f x]}{f}+\right.\right.$$
$$\left.\frac{4\,(A-B)\,\text{Sin}\left[\frac{f x}{2}\right]}{f\left(\text{Cos}\left[\frac{e}{2}\right]+\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)}\right)$$
$$\left.(c-c\,\text{Sin}[e+f x])\right)\Big/\left(a\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\right)$$

Problem 63: Result more than twice size of optimal antiderivative.

$$\int \frac{(A+B\,\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])^2}{(a+a\,\text{Sin}[e+f x])^2}\,dx$$

Optimal (type 3, 108 leaves, 5 steps):

$$\frac{(A-4B)\,c^2\,x}{a^2}+\frac{(A-4B)\,c^2\,\text{Cos}[e+f\,x]}{a^2\,f}-\frac{a^2\,(A-B)\,c^2\,\text{Cos}[e+f\,x]^5}{3\,f\,(a+a\,\text{Sin}[e+f\,x])^4}+\frac{2\,(A-4B)\,c^2\,\text{Cos}[e+f\,x]^3}{3\,f\,(a+a\,\text{Sin}[e+f\,x])^2}$$

Result (type 3, 234 leaves):

$$\frac{1}{3\,a^2\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4(1+\text{Sin}[e+f\,x])^2}\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(8\,(A-B)\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-4\,(A-B)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)-8\,(2A-5B)\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^2+3\,(A-4B)\,(e+f\,x)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^3-3\,B\,\text{Cos}[e+f\,x]\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^3\right)(c-c\,\text{Sin}[e+f\,x])^2$$

Problem 64: Result more than twice size of optimal antiderivative.

$$\int\frac{(A+B\,\text{Sin}[e+f\,x])\,(c-c\,\text{Sin}[e+f\,x])}{(a+a\,\text{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 3, 72 leaves, 4 steps):

$$-\frac{B\,c\,x}{a^2}+\frac{(A-7B)\,c\,\text{Cos}[e+f\,x]}{3\,a^2\,f\,(1+\text{Sin}[e+f\,x])}-\frac{2\,(A-B)\,c\,\text{Cos}[e+f\,x]}{3\,f\,(a+a\,\text{Sin}[e+f\,x])^2}$$

Result (type 3, 156 leaves):

$$\left(c\left(-9\,B\,f\,x\,\text{Cos}\left[\frac{f\,x}{2}\right]-6\,(A-3B)\,\text{Cos}\left[e+\frac{f\,x}{2}\right]+2\,A\,\text{Cos}\left[e+\frac{3\,f\,x}{2}\right]-14\,B\,\text{Cos}\left[e+\frac{3\,f\,x}{2}\right]+3\,B\,f\,x\,\text{Cos}\left[2\,e+\frac{3\,f\,x}{2}\right]+24\,B\,\text{Sin}\left[\frac{f\,x}{2}\right]-9\,B\,f\,x\,\text{Sin}\left[e+\frac{f\,x}{2}\right]-3\,B\,f\,x\,\text{Sin}\left[e+\frac{3\,f\,x}{2}\right]\right)\right)\Big/\left(6\,a^2\,f\left(\text{Cos}\left[\frac{e}{2}\right]+\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^3\right)$$

Problem 67: Result more than twice size of optimal antiderivative.

$$\int\frac{A+B\,\text{Sin}[e+f\,x]}{(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^3}\,dx$$

Optimal (type 3, 93 leaves, 4 steps):

$$\frac{(A+B)\,\text{Sec}[e+f\,x]^3}{5\,a^2\,f\,(c^3-c^3\,\text{Sin}[e+f\,x])}+\frac{(4A-B)\,\text{Tan}[e+f\,x]}{5\,a^2\,c^3\,f}+\frac{(4A-B)\,\text{Tan}[e+f\,x]^3}{15\,a^2\,c^3\,f}$$

Result (type 3, 237 leaves):

$$\frac{1}{960\,a^2\,c^3\,f\,(-1+\text{Sin}[e+f\,x])^3\,(1+\text{Sin}[e+f\,x])^2}\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\\ (-240\,B+54\,(A+B)\,\text{Cos}[e+f\,x]-32\,(4\,A-B)\,\text{Cos}[2\,(e+f\,x)]+18\,A\,\text{Cos}[3\,(e+f\,x)]+\\ 18\,B\,\text{Cos}[3\,(e+f\,x)]-64\,A\,\text{Cos}[4\,(e+f\,x)]+16\,B\,\text{Cos}[4\,(e+f\,x)]-\\ 384\,A\,\text{Sin}[e+f\,x]+96\,B\,\text{Sin}[e+f\,x]-18\,A\,\text{Sin}[2\,(e+f\,x)]-18\,B\,\text{Sin}[2\,(e+f\,x)]-\\ 128\,A\,\text{Sin}[3\,(e+f\,x)]+32\,B\,\text{Sin}[3\,(e+f\,x)]-9\,A\,\text{Sin}[4\,(e+f\,x)]-9\,B\,\text{Sin}[4\,(e+f\,x)])$$

Problem 68: Result more than twice size of optimal antiderivative.

$$\int\frac{A+B\,\text{Sin}[e+f\,x]}{(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^4}\,dx$$

Optimal (type 3, 135 leaves, 5 steps):

$$\frac{(A+B)\,\text{Sec}[e+f\,x]^3}{7\,a^2\,f\,(c^2-c^2\,\text{Sin}[e+f\,x])^2}+\frac{(5\,A-2\,B)\,\text{Sec}[e+f\,x]^3}{35\,a^2\,f\,(c^4-c^4\,\text{Sin}[e+f\,x])}+\\ \frac{4\,(5\,A-2\,B)\,\text{Tan}[e+f\,x]}{35\,a^2\,c^4\,f}+\frac{4\,(5\,A-2\,B)\,\text{Tan}[e+f\,x]^3}{105\,a^2\,c^4\,f}$$

Result (type 3, 285 leaves):

$$-\frac{1}{13\,440\,a^2\,c^4\,f\,(-1+\text{Sin}[e+f\,x])^4\,(1+\text{Sin}[e+f\,x])^2}\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\\ (-2688\,B+42\,(25\,A+4\,B)\,\text{Cos}[e+f\,x]-512\,(5\,A-2\,B)\,\text{Cos}[2\,(e+f\,x)]+225\,A\,\text{Cos}[3\,(e+f\,x)]+\\ 36\,B\,\text{Cos}[3\,(e+f\,x)]-1280\,A\,\text{Cos}[4\,(e+f\,x)]+512\,B\,\text{Cos}[4\,(e+f\,x)]-\\ 75\,A\,\text{Cos}[5\,(e+f\,x)]-12\,B\,\text{Cos}[5\,(e+f\,x)]-4480\,A\,\text{Sin}[e+f\,x]+1792\,B\,\text{Sin}[e+f\,x]-\\ 600\,A\,\text{Sin}[2\,(e+f\,x)]-96\,B\,\text{Sin}[2\,(e+f\,x)]-960\,A\,\text{Sin}[3\,(e+f\,x)]+384\,B\,\text{Sin}[3\,(e+f\,x)]-\\ 300\,A\,\text{Sin}[4\,(e+f\,x)]-48\,B\,\text{Sin}[4\,(e+f\,x)]+320\,A\,\text{Sin}[5\,(e+f\,x)]-128\,B\,\text{Sin}[5\,(e+f\,x)])$$

Problem 72: Result more than twice size of optimal antiderivative.

$$\int\frac{(A+B\,\text{Sin}[e+f\,x])\,(c-c\,\text{Sin}[e+f\,x])^3}{(a+a\,\text{Sin}[e+f\,x])^3}\,dx$$

Optimal (type 3, 153 leaves, 6 steps):

$$-\frac{(A-6\,B)\,c^3\,x}{a^3}-\frac{(A-6\,B)\,c^3\,\text{Cos}[e+f\,x]}{a^3\,f}-\frac{a^3\,(A-B)\,c^3\,\text{Cos}[e+f\,x]^7}{5\,f\,(a+a\,\text{Sin}[e+f\,x])^6}+\\ \frac{2\,a\,(A-6\,B)\,c^3\,\text{Cos}[e+f\,x]^5}{15\,f\,(a+a\,\text{Sin}[e+f\,x])^4}-\frac{2\,a^3\,(A-6\,B)\,c^3\,\text{Cos}[e+f\,x]^3}{3\,f\,(a^3+a^3\,\text{Sin}[e+f\,x])^2}$$

Result (type 3, 308 leaves):

$$\frac{1}{15\,a^3\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(1+\text{Sin}[e+f\,x])^3}$$
$$\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)$$
$$\left(48\,(A-B)\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-24\,(A-B)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)-\right.$$
$$8\,(11\,A-21\,B)\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2+$$
$$4\,(11\,A-21\,B)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3+$$
$$4\,(23\,A-93\,B)\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4-$$
$$15\,(A-6\,B)\,(e+f\,x)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5+$$
$$\left.15\,B\,\text{Cos}[e+f\,x]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5\right)\,(c-c\,\text{Sin}[e+f\,x])^3$$

Problem 73: Result more than twice size of optimal antiderivative.

$$\int \frac{(A+B\,\text{Sin}[e+f\,x])\,(c-c\,\text{Sin}[e+f\,x])^2}{(a+a\,\text{Sin}[e+f\,x])^3}\,dx$$

Optimal (type 3, 110 leaves, 5 steps):

$$\frac{B\,c^2\,x}{a^3}-\frac{a^2\,(A-B)\,c^2\,\text{Cos}[e+f\,x]^5}{5\,f\,(a+a\,\text{Sin}[e+f\,x])^5}-\frac{2\,B\,c^2\,\text{Cos}[e+f\,x]^3}{3\,f\,(a+a\,\text{Sin}[e+f\,x])^3}+\frac{2\,B\,c^2\,\text{Cos}[e+f\,x]}{f\,(a^3+a^3\,\text{Sin}[e+f\,x])}$$

Result (type 3, 272 leaves):

$$\frac{1}{15\,a^3\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\,(1+\text{Sin}[e+f\,x])^3}$$
$$\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)$$
$$\left(24\,(A-B)\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-12\,(A-B)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)-\right.$$
$$8\,(3\,A-8\,B)\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2+$$
$$4\,(3\,A-8\,B)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3+$$
$$2\,(3\,A-43\,B)\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4+$$
$$\left.15\,B\,(e+f\,x)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5\right)\,(c-c\,\text{Sin}[e+f\,x])^2$$

Problem 76: Result more than twice size of optimal antiderivative.

$$\int \frac{A + B \operatorname{Sin}[e + f x]}{(a + a \operatorname{Sin}[e + f x])^3 (c - c \operatorname{Sin}[e + f x])^2} \, dx$$

Optimal (type 3, 90 leaves, 4 steps):

$$-\frac{(A - B) \operatorname{Sec}[e + f x]^3}{5 c^2 f (a^3 + a^3 \operatorname{Sin}[e + f x])} + \frac{(4 A + B) \operatorname{Tan}[e + f x]}{5 a^3 c^2 f} + \frac{(4 A + B) \operatorname{Tan}[e + f x]^3}{15 a^3 c^2 f}$$

Result (type 3, 237 leaves):

$$\frac{1}{960 a^3 c^2 f (-1 + \operatorname{Sin}[e + f x])^2 (1 + \operatorname{Sin}[e + f x])^3} \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] + \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)$$
$$(240 B + 54 (A - B) \operatorname{Cos}[e + f x] - 32 (4 A + B) \operatorname{Cos}[2 (e + f x)] + 18 A \operatorname{Cos}[3 (e + f x)] -$$
$$18 B \operatorname{Cos}[3 (e + f x)] - 64 A \operatorname{Cos}[4 (e + f x)] - 16 B \operatorname{Cos}[4 (e + f x)] +$$
$$384 A \operatorname{Sin}[e + f x] + 96 B \operatorname{Sin}[e + f x] + 18 A \operatorname{Sin}[2 (e + f x)] - 18 B \operatorname{Sin}[2 (e + f x)] +$$
$$128 A \operatorname{Sin}[3 (e + f x)] + 32 B \operatorname{Sin}[3 (e + f x)] + 9 A \operatorname{Sin}[4 (e + f x)] - 9 B \operatorname{Sin}[4 (e + f x)])$$

Problem 78: Result more than twice size of optimal antiderivative.

$$\int \frac{A + B \operatorname{Sin}[e + f x]}{(a + a \operatorname{Sin}[e + f x])^3 (c - c \operatorname{Sin}[e + f x])^4} \, dx$$

Optimal (type 3, 121 leaves, 4 steps):

$$\frac{(A + B) \operatorname{Sec}[e + f x]^5}{7 a^3 f (c^4 - c^4 \operatorname{Sin}[e + f x])} + \frac{(6 A - B) \operatorname{Tan}[e + f x]}{7 a^3 c^4 f} +$$
$$\frac{2 (6 A - B) \operatorname{Tan}[e + f x]^3}{21 a^3 c^4 f} + \frac{(6 A - B) \operatorname{Tan}[e + f x]^5}{35 a^3 c^4 f}$$

Result (type 3, 325 leaves):

$$-\frac{1}{53760 a^3 c^4 f (-1 + \operatorname{Sin}[e + f x])^4 (1 + \operatorname{Sin}[e + f x])^3} \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] + \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)$$
$$(-8960 B + 1500 (A + B) \operatorname{Cos}[e + f x] - 640 (6 A - B) \operatorname{Cos}[2 (e + f x)] + 750 A \operatorname{Cos}[3 (e + f x)] +$$
$$750 B \operatorname{Cos}[3 (e + f x)] - 3072 A \operatorname{Cos}[4 (e + f x)] + 512 B \operatorname{Cos}[4 (e + f x)] + 150 A \operatorname{Cos}[5 (e + f x)] +$$
$$150 B \operatorname{Cos}[5 (e + f x)] - 768 A \operatorname{Cos}[6 (e + f x)] + 128 B \operatorname{Cos}[6 (e + f x)] - 15360 A \operatorname{Sin}[e + f x] +$$
$$2560 B \operatorname{Sin}[e + f x] - 375 A \operatorname{Sin}[2 (e + f x)] - 375 B \operatorname{Sin}[2 (e + f x)] - 7680 A \operatorname{Sin}[3 (e + f x)] +$$
$$1280 B \operatorname{Sin}[3 (e + f x)] - 300 A \operatorname{Sin}[4 (e + f x)] - 300 B \operatorname{Sin}[4 (e + f x)] -$$
$$1536 A \operatorname{Sin}[5 (e + f x)] + 256 B \operatorname{Sin}[5 (e + f x)] - 75 A \operatorname{Sin}[6 (e + f x)] - 75 B \operatorname{Sin}[6 (e + f x)])$$

Problem 79: Result more than twice size of optimal antiderivative.

$$\int \frac{A + B \operatorname{Sin}[e + f x]}{(a + a \operatorname{Sin}[e + f x])^3 (c - c \operatorname{Sin}[e + f x])^5} \, dx$$

Optimal (type 3, 162 leaves, 5 steps):

$$\frac{(A + B) \operatorname{Sec}[e + f x]^5}{9 a^3 c^3 f (c - c \operatorname{Sin}[e + f x])^2} + \frac{(7 A - 2 B) \operatorname{Sec}[e + f x]^5}{63 a^3 f (c^5 - c^5 \operatorname{Sin}[e + f x])} + \frac{2 (7 A - 2 B) \operatorname{Tan}[e + f x]}{21 a^3 c^5 f} + \frac{4 (7 A - 2 B) \operatorname{Tan}[e + f x]^3}{63 a^3 c^5 f} + \frac{2 (7 A - 2 B) \operatorname{Tan}[e + f x]^5}{105 a^3 c^5 f}$$

Result (type 3, 373 leaves):

$$\frac{1}{1290240 a^3 c^5 f (-1 + \operatorname{Sin}[e + f x])^5 (1 + \operatorname{Sin}[e + f x])^3} \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] + \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) \\ (-184320 B + 1125 (49 A + 13 B) \operatorname{Cos}[e + f x] - 20480 (7 A - 2 B) \operatorname{Cos}[2 (e + f x)] + \\ 23275 A \operatorname{Cos}[3 (e + f x)] + 6175 B \operatorname{Cos}[3 (e + f x)] - 114688 A \operatorname{Cos}[4 (e + f x)] + \\ 32768 B \operatorname{Cos}[4 (e + f x)] + 1225 A \operatorname{Cos}[5 (e + f x)] + 325 B \operatorname{Cos}[5 (e + f x)] - \\ 28672 A \operatorname{Cos}[6 (e + f x)] + 8192 B \operatorname{Cos}[6 (e + f x)] - 1225 A \operatorname{Cos}[7 (e + f x)] - \\ 325 B \operatorname{Cos}[7 (e + f x)] - 322560 A \operatorname{Sin}[e + f x] + 92160 B \operatorname{Sin}[e + f x] - \\ 24500 A \operatorname{Sin}[2 (e + f x)] - 6500 B \operatorname{Sin}[2 (e + f x)] - 136192 A \operatorname{Sin}[3 (e + f x)] + \\ 38912 B \operatorname{Sin}[3 (e + f x)] - 19600 A \operatorname{Sin}[4 (e + f x)] - 5200 B \operatorname{Sin}[4 (e + f x)] - \\ 7168 A \operatorname{Sin}[5 (e + f x)] + 2048 B \operatorname{Sin}[5 (e + f x)] - 4900 A \operatorname{Sin}[6 (e + f x)] - \\ 1300 B \operatorname{Sin}[6 (e + f x)] + 7168 A \operatorname{Sin}[7 (e + f x)] - 2048 B \operatorname{Sin}[7 (e + f x)])$$

Problem 85: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a + a \operatorname{Sin}[e + f x]) (A + B \operatorname{Sin}[e + f x])}{\sqrt{c - c \operatorname{Sin}[e + f x]}} \, dx$$

Optimal (type 3, 122 leaves, 5 steps):

$$\frac{2 \sqrt{2} a (A + B) \operatorname{ArcTanh}\left[\frac{\sqrt{c} \operatorname{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c \operatorname{Sin}[e+f x]}}\right]}{\sqrt{c} f} - \frac{2 a (3 A + 5 B) \operatorname{Cos}[e + f x]}{3 f \sqrt{c - c \operatorname{Sin}[e + f x]}} + \frac{2 a B \operatorname{Cos}[e + f x] \sqrt{c - c \operatorname{Sin}[e + f x]}}{3 c f}$$

Result (type 3, 200 leaves):

$$-\left(\left(a\left(\mathrm{Cos}\left[\frac{1}{2}(e+fx)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+fx)\right]\right)\left(3(2A+3B)\sqrt{c}-B\sqrt{c}\,\mathrm{Cos}[2(e+fx)]+2(3A+5B)\sqrt{c}\,\mathrm{Sin}[e+fx]-6\,i\sqrt{2}(A+B)\,\mathrm{Log}\left[\frac{2\left(-i\sqrt{2}\sqrt{c}+\sqrt{-c(1+\mathrm{Sin}[e+fx])}\right)}{\sqrt{c-c\,\mathrm{Sin}[e+fx]}}\right]\sqrt{-c(1+\mathrm{Sin}[e+fx])}\right)\right)\Big/\left(3\sqrt{c}\,f\left(\mathrm{Cos}\left[\frac{1}{2}(e+fx)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+fx)\right]\right)\sqrt{c-c\,\mathrm{Sin}[e+fx]}\right)\right)$$

Problem 86: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{(a+a\,\mathrm{Sin}[e+fx])\,(A+B\,\mathrm{Sin}[e+fx])}{(c-c\,\mathrm{Sin}[e+fx])^{3/2}}\,dx$$

Optimal (type 3, 115 leaves, 5 steps):

$$-\frac{a\,(A+5B)\,\mathrm{ArcTanh}\left[\frac{\sqrt{c}\,\mathrm{Cos}[e+fx]}{\sqrt{2}\sqrt{c-c\,\mathrm{Sin}[e+fx]}}\right]}{\sqrt{2}\,c^{3/2}f}+\frac{a\,(A+B)\,\mathrm{Cos}[e+fx]}{f\,(c-c\,\mathrm{Sin}[e+fx])^{3/2}}+\frac{2\,a\,B\,\mathrm{Cos}[e+fx]}{c\,f\sqrt{c-c\,\mathrm{Sin}[e+fx]}}$$

Result (type 3, 218 leaves):

$$\left(a\,(-1+\mathrm{Sin}[e+fx])\,(1+\mathrm{Sin}[e+fx])\left(i\sqrt{2}(A+5B)\,\mathrm{Log}\left[\frac{2\left(-i\sqrt{2}\sqrt{c}+\sqrt{-c(1+\mathrm{Sin}[e+fx])}\right)}{\sqrt{c-c\,\mathrm{Sin}[e+fx]}}\right]\mathrm{Sec}[e+fx]\sqrt{-c(1+\mathrm{Sin}[e+fx])}-\left(2\sqrt{c}\left(\mathrm{Cos}\left[\frac{1}{2}(e+fx)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+fx)\right]\right)(A+3B-2B\,\mathrm{Sin}[e+fx])\right)\Big/\left(\mathrm{Cos}\left[\frac{1}{2}(e+fx)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\right)\right)\Big/\left(2\,c^{3/2}f\left(\mathrm{Cos}\left[\frac{1}{2}(e+fx)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^2\sqrt{c-c\,\mathrm{Sin}[e+fx]}\right)$$

Problem 87: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a + a \sin[e + f x]) (A + B \sin[e + f x])}{(c - c \sin[e + f x])^{5/2}} \, dx$$

Optimal (type 3, 126 leaves, 5 steps):

$$-\frac{a (A - 7 B) \text{ArcTanh}\left[\frac{\sqrt{c} \cos[e+f x]}{\sqrt{2} \sqrt{c-c \sin[e+f x]}}\right]}{8 \sqrt{2} c^{5/2} f} + \frac{a (A + B) \cos[e + f x]}{2 f (c - c \sin[e + f x])^{5/2}} - \frac{a (A + 9 B) \cos[e + f x]}{8 c f (c - c \sin[e + f x])^{3/2}}$$

Result (type 3, 223 leaves):

$$\left(a (-1 + \sin[e + f x]) (1 + \sin[e + f x]) \left(i \sqrt{2} (A - 7 B) \text{Log}\left[\frac{2 \left(-i \sqrt{2} \sqrt{c} + \sqrt{-c (1 + \sin[e + f x])}\right)}{\sqrt{c - c \sin[e + f x]}}\right] \sec[e + f x] \sqrt{-c (1 + \sin[e + f x])} - \left(2 \sqrt{c} \left(\cos\left[\frac{1}{2} (e + f x)\right] + \sin\left[\frac{1}{2} (e + f x)\right]\right) (3 A - 5 B + (A + 9 B) \sin[e + f x])\right) \middle/ \left(\cos\left[\frac{1}{2} (e + f x)\right] - \sin\left[\frac{1}{2} (e + f x)\right]\right)^5\right)\right) \middle/ \left(16 c^{5/2} f \left(\cos\left[\frac{1}{2} (e + f x)\right] + \sin\left[\frac{1}{2} (e + f x)\right]\right)^2 \sqrt{c - c \sin[e + f x]}\right)$$

Problem 88: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{(a + a \sin[e + f x]) (A + B \sin[e + f x])}{(c - c \sin[e + f x])^{7/2}} \, dx$$

Optimal (type 3, 163 leaves, 6 steps):

$$-\frac{a (A - 3 B) \text{ArcTanh}\left[\frac{\sqrt{c} \cos[e+f x]}{\sqrt{2} \sqrt{c-c \sin[e+f x]}}\right]}{32 \sqrt{2} c^{7/2} f} + \frac{a (A + B) \cos[e + f x]}{3 f (c - c \sin[e + f x])^{7/2}} - \frac{a (A + 13 B) \cos[e + f x]}{24 c f (c - c \sin[e + f x])^{5/2}} - \frac{a (A - 3 B) \cos[e + f x]}{32 c^2 f (c - c \sin[e + f x])^{3/2}}$$

Result (type 3, 796 leaves):

$$a\left(\left(i\,(A-3B)\,\text{Cos}[e+f x]\,\text{Log}\left[\frac{2\left(-i\sqrt{2}\,\sqrt{c}+\sqrt{-2c-c\,(-1+\text{Sin}[e+f x])}\right)}{\sqrt{-c\,(-1+\text{Sin}[e+f x])}}\right]\right.\right.$$

$$\left.\sqrt{-2c-c\,(-1+\text{Sin}[e+f x])}\,(-1+\text{Sin}[e+f x])\,(1+\text{Sin}[e+f x])\right)\Big/$$

$$\left(32\sqrt{2}\,c^{7/2} f\left(\text{Cos}\left[\frac{e}{2}+\frac{f x}{2}\right]+\text{Sin}\left[\frac{e}{2}+\frac{f x}{2}\right]\right)^2\sqrt{1-\frac{(c+c\,(-1+\text{Sin}[e+f x]))^2}{c^2}}\right.$$

$$\left.\sqrt{\frac{-2c^2\,(-1+\text{Sin}[e+f x])-c^2\,(-1+\text{Sin}[e+f x])^2}{c^2}}\,\sqrt{-c\,(-1+\text{Sin}[e+f x])}\right)+$$

$$\frac{1}{\left(\text{Cos}\left[\frac{e}{2}+\frac{f x}{2}\right]+\text{Sin}\left[\frac{e}{2}+\frac{f x}{2}\right]\right)^2}\left(\frac{2\left(A\,\text{Sin}\left[\frac{f x}{2}\right]+B\,\text{Sin}\left[\frac{f x}{2}\right]\right)}{3c^4 f\left(\text{Cos}\left[\frac{e}{2}\right]-\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{e}{2}+\frac{f x}{2}\right]-\text{Sin}\left[\frac{e}{2}+\frac{f x}{2}\right]\right)^7}+\right.$$

$$\frac{A\,\text{Cos}\left[\frac{e}{2}\right]+B\,\text{Cos}\left[\frac{e}{2}\right]+A\,\text{Sin}\left[\frac{e}{2}\right]+B\,\text{Sin}\left[\frac{e}{2}\right]}{3c^4 f\left(\text{Cos}\left[\frac{e}{2}\right]-\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{e}{2}+\frac{f x}{2}\right]-\text{Sin}\left[\frac{e}{2}+\frac{f x}{2}\right]\right)^6}+$$

$$\frac{-A\,\text{Sin}\left[\frac{f x}{2}\right]-13B\,\text{Sin}\left[\frac{f x}{2}\right]}{12c^4 f\left(\text{Cos}\left[\frac{e}{2}\right]-\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{e}{2}+\frac{f x}{2}\right]-\text{Sin}\left[\frac{e}{2}+\frac{f x}{2}\right]\right)^5}+$$

$$\frac{-A\,\text{Cos}\left[\frac{e}{2}\right]-13B\,\text{Cos}\left[\frac{e}{2}\right]-A\,\text{Sin}\left[\frac{e}{2}\right]-13B\,\text{Sin}\left[\frac{e}{2}\right]}{24c^4 f\left(\text{Cos}\left[\frac{e}{2}\right]-\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{e}{2}+\frac{f x}{2}\right]-\text{Sin}\left[\frac{e}{2}+\frac{f x}{2}\right]\right)^4}+$$

$$\frac{-A\,\text{Sin}\left[\frac{f x}{2}\right]+3B\,\text{Sin}\left[\frac{f x}{2}\right]}{16c^4 f\left(\text{Cos}\left[\frac{e}{2}\right]-\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{e}{2}+\frac{f x}{2}\right]-\text{Sin}\left[\frac{e}{2}+\frac{f x}{2}\right]\right)^3}+$$

$$\left.\frac{-A\,\text{Cos}\left[\frac{e}{2}\right]+3B\,\text{Cos}\left[\frac{e}{2}\right]-A\,\text{Sin}\left[\frac{e}{2}\right]+3B\,\text{Sin}\left[\frac{e}{2}\right]}{32c^4 f\left(\text{Cos}\left[\frac{e}{2}\right]-\text{Sin}\left[\frac{e}{2}\right]\right)\left(\text{Cos}\left[\frac{e}{2}+\frac{f x}{2}\right]-\text{Sin}\left[\frac{e}{2}+\frac{f x}{2}\right]\right)^2}\right)$$

$$\left.(1+\text{Sin}[e+f x])\,\sqrt{c-c\,\text{Sin}[e+f x]}\right)$$

Problem 89: Result more than twice size of optimal antiderivative.

$$\int(a+a\,\text{Sin}[e+f x])^2\,(A+B\,\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])^{7/2}\,dx$$

Optimal (type 3, 210 leaves, 6 steps):

$$\frac{256\,a^2\,(13\,A-3\,B)\,c^6\,\text{Cos}[e+f\,x]^5}{15015\,f\,(c-c\,\text{Sin}[e+f\,x])^{5/2}}+\frac{64\,a^2\,(13\,A-3\,B)\,c^5\,\text{Cos}[e+f\,x]^5}{3003\,f\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}+\frac{8\,a^2\,(13\,A-3\,B)\,c^4\,\text{Cos}[e+f\,x]^5}{429\,f\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}+\frac{2\,a^2\,(13\,A-3\,B)\,c^3\,\text{Cos}[e+f\,x]^5\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}{143\,f}-\frac{2\,a^2\,B\,c^2\,\text{Cos}[e+f\,x]^5\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}{13\,f}$$

Result (type 3, 1355 leaves):

$$\left((7\,A-2\,B)\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right](a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/\left(8\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)-$$

$$\left((4\,A+B)\,\text{Cos}\left[\frac{3}{2}(e+f\,x)\right](a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/\left(32\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)+$$

$$\left((22\,A-7\,B)\,\text{Cos}\left[\frac{5}{2}(e+f\,x)\right](a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/\left(160\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)+$$

$$\left((A-4\,B)\,\text{Cos}\left[\frac{7}{2}(e+f\,x)\right](a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/\left(112\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)+$$

$$\left(A\,\text{Cos}\left[\frac{9}{2}(e+f\,x)\right](a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/\left(48\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)+$$

$$\left((2\,A-3\,B)\,\text{Cos}\left[\frac{11}{2}(e+f\,x)\right](a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/\left(352\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)+$$

$$\left(B\,\text{Cos}\left[\frac{13}{2}(e+f\,x)\right](a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/\left(416\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)+$$

$$\left((7\,A-2\,B)\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right](a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/\left(8\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)+$$

$$\left((4\,A+B)\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\,\text{Sin}\left[\frac{3}{2}(e+f\,x)\right]\right)\Big/\left(32\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)+$$

$$\left((22 A-7 B) (a+a \text{Sin}[e+f x])^2 (c-c \text{Sin}[e+f x])^{7/2} \text{Sin}\left[\frac{5}{2} (e+f x)\right]\right)\Big/$$
$$\left(160 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4\right)-$$
$$\left((A-4 B) (a+a \text{Sin}[e+f x])^2 (c-c \text{Sin}[e+f x])^{7/2} \text{Sin}\left[\frac{7}{2} (e+f x)\right]\right)\Big/$$
$$\left(112 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4\right)+$$
$$\left(A (a+a \text{Sin}[e+f x])^2 (c-c \text{Sin}[e+f x])^{7/2} \text{Sin}\left[\frac{9}{2} (e+f x)\right]\right)\Big/$$
$$\left(48 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4\right)-$$
$$\left((2 A-3 B) (a+a \text{Sin}[e+f x])^2 (c-c \text{Sin}[e+f x])^{7/2} \text{Sin}\left[\frac{11}{2} (e+f x)\right]\right)\Big/$$
$$\left(352 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4\right)+$$
$$\left(B (a+a \text{Sin}[e+f x])^2 (c-c \text{Sin}[e+f x])^{7/2} \text{Sin}\left[\frac{13}{2} (e+f x)\right]\right)\Big/$$
$$\left(416 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4\right)$$

Problem 90: Result more than twice size of optimal antiderivative.

$$\int (a+a \text{Sin}[e+f x])^2 (A+B \text{Sin}[e+f x]) (c-c \text{Sin}[e+f x])^{5/2} \, dx$$

Optimal (type 3, 167 leaves, 5 steps):

$$\frac{64 a^2 (11 A-B) c^5 \text{Cos}[e+f x]^5}{3465 f (c-c \text{Sin}[e+f x])^{5/2}}+\frac{16 a^2 (11 A-B) c^4 \text{Cos}[e+f x]^5}{693 f (c-c \text{Sin}[e+f x])^{3/2}}+$$
$$\frac{2 a^2 (11 A-B) c^3 \text{Cos}[e+f x]^5}{99 f \sqrt{c-c \text{Sin}[e+f x]}}-\frac{2 a^2 B c^2 \text{Cos}[e+f x]^5 \sqrt{c-c \text{Sin}[e+f x]}}{11 f}$$

Result (type 3, 1173 leaves):

$$\left((6 A-B) \text{Cos}\left[\frac{1}{2} (e+f x)\right] (a+a \text{Sin}[e+f x])^2 (c-c \text{Sin}[e+f x])^{5/2}\right)\Big/$$
$$\left(8 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4\right)-$$
$$\left((4 A+B) \text{Cos}\left[\frac{3}{2} (e+f x)\right] (a+a \text{Sin}[e+f x])^2 (c-c \text{Sin}[e+f x])^{5/2}\right)\Big/$$
$$\left(24 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4\right)+$$
$$\left((8 A-3 B) \text{Cos}\left[\frac{5}{2} (e+f x)\right] (a+a \text{Sin}[e+f x])^2 (c-c \text{Sin}[e+f x])^{5/2}\right)\Big/$$
$$\left(80 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5 \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^4\right)-$$

$$\left((2A+3B)\,\text{Cos}\left[\frac{7}{2}(e+fx)\right](a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\right)\Big/$$
$$\left(112\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)+$$
$$\left((2A-B)\,\text{Cos}\left[\frac{9}{2}(e+fx)\right](a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\right)\Big/$$
$$\left(144\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)-$$
$$\left(B\,\text{Cos}\left[\frac{11}{2}(e+fx)\right](a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\right)\Big/$$
$$\left(176\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)+$$
$$\left((6A-B)\,\text{Sin}\left[\frac{1}{2}(e+fx)\right](a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\right)\Big/$$
$$\left(8\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)+$$
$$\left((4A+B)(a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]\right)\Big/$$
$$\left(24\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)+$$
$$\left((8A-3B)(a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\,\text{Sin}\left[\frac{5}{2}(e+fx)\right]\right)\Big/$$
$$\left(80\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)+$$
$$\left((2A+3B)(a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\,\text{Sin}\left[\frac{7}{2}(e+fx)\right]\right)\Big/$$
$$\left(112\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)+$$
$$\left((2A-B)(a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\,\text{Sin}\left[\frac{9}{2}(e+fx)\right]\right)\Big/$$
$$\left(144\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)+$$
$$\left(B(a+a\,\text{Sin}[e+fx])^2(c-c\,\text{Sin}[e+fx])^{5/2}\,\text{Sin}\left[\frac{11}{2}(e+fx)\right]\right)\Big/$$
$$\left(176\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\right)$$

Problem 91: Result more than twice size of optimal antiderivative.

$$\int(a+a\,\text{Sin}[e+fx])^2(A+B\,\text{Sin}[e+fx])(c-c\,\text{Sin}[e+fx])^{3/2}\,dx$$

Optimal (type 3, 120 leaves, 4 steps):

$$\frac{8a^2(9A+B)c^4\,\text{Cos}[e+fx]^5}{315\,f(c-c\,\text{Sin}[e+fx])^{5/2}}+\frac{2a^2(9A+B)c^3\,\text{Cos}[e+fx]^5}{63\,f(c-c\,\text{Sin}[e+fx])^{3/2}}-\frac{2a^2Bc^2\,\text{Cos}[e+fx]^5}{9\,f\sqrt{c-c\,\text{Sin}[e+fx]}}$$

Result (type 3, 955 leaves):

$$\left(3\,A\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\right)\Big/$$
$$\left(4\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)-$$
$$\left((3\,A+B)\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\right)\Big/$$
$$\left(12\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)+$$
$$\left((A-B)\,\text{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\right)\Big/$$
$$\left(20\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)-$$
$$\left((2\,A+B)\,\text{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\right)\Big/$$
$$\left(56\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)-$$
$$\left(B\,\text{Cos}\left[\frac{9}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\right)\Big/$$
$$\left(72\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)+$$
$$\left(3\,A\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\right)\Big/$$
$$\left(4\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)+$$
$$\left((3\,A+B)\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]\right)\Big/$$
$$\left(12\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)+$$
$$\left((A-B)\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]\right)\Big/$$
$$\left(20\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)+$$
$$\left((2\,A+B)\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]\right)\Big/$$
$$\left(56\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)-$$
$$\left(B\,(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}\,\text{Sin}\left[\frac{9}{2}\,(e+f\,x)\right]\right)\Big/$$
$$\left(72\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\right)$$

Problem 93: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a + a \operatorname{Sin}[e + f x])^2 (A + B \operatorname{Sin}[e + f x])}{\sqrt{c - c \operatorname{Sin}[e + f x]}} \, dx$$

Optimal (type 3, 161 leaves, 6 steps):

$$\frac{4 \sqrt{2}\, a^2 (A + B) \operatorname{ArcTanh}\left[\frac{\sqrt{c} \operatorname{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c \operatorname{Sin}[e+f x]}}\right]}{\sqrt{c}\, f} - \frac{2 a^2 B c^2 \operatorname{Cos}[e + f x]^5}{5 f (c - c \operatorname{Sin}[e + f x])^{5/2}} - \frac{2 a^2 (A + B) c \operatorname{Cos}[e + f x]^3}{3 f (c - c \operatorname{Sin}[e + f x])^{3/2}} - \frac{4 a^2 (A + B) \operatorname{Cos}[e + f x]}{f \sqrt{c - c \operatorname{Sin}[e + f x]}}$$

Result (type 3, 175 leaves):

$$-\left(\left(a^2 \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) (1 + \operatorname{Sin}[e + f x])^2 \left((120 + 120 i) (-1)^{1/4} (A + B) \operatorname{ArcTan}\left[\left(\frac{1}{2} + \frac{i}{2}\right) (-1)^{1/4} \left(1 + \operatorname{Tan}\left[\frac{1}{4} (e + f x)\right]\right)\right] + \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] + \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right) (70 A + 79 B - 3 B \operatorname{Cos}[2 (e + f x)] + 2 (5 A + 11 B) \operatorname{Sin}[e + f x])\right)\right) \Big/ \left(15 f \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] + \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)^4 \sqrt{c - c \operatorname{Sin}[e + f x]}\right)\right)$$

Problem 94: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{(a + a \operatorname{Sin}[e + f x])^2 (A + B \operatorname{Sin}[e + f x])}{(c - c \operatorname{Sin}[e + f x])^{3/2}} \, dx$$

Optimal (type 3, 176 leaves, 6 steps):

$$-\frac{\sqrt{2}\, a^2 (3 A + 7 B) \operatorname{ArcTanh}\left[\frac{\sqrt{c} \operatorname{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c \operatorname{Sin}[e+f x]}}\right]}{c^{3/2} f} + \frac{a^2 (A + B) c^2 \operatorname{Cos}[e + f x]^5}{2 f (c - c \operatorname{Sin}[e + f x])^{7/2}} + \frac{a^2 (3 A + 7 B) \operatorname{Cos}[e + f x]^3}{6 f (c - c \operatorname{Sin}[e + f x])^{3/2}} + \frac{a^2 (3 A + 7 B) \operatorname{Cos}[e + f x]}{c f \sqrt{c - c \operatorname{Sin}[e + f x]}}$$

Result (type 3, 355 leaves):

$$\frac{1}{3 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 (c-c\,\text{Sin}[e+f x])^{3/2}}$$
$$a^2 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)(1+\text{Sin}[e+f x])^2$$
$$\left(6 (A+B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)+(6+6 i)(-1)^{1/4}(3 A+7 B)\right.$$
$$\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2+$$
$$3 (2 A+7 B)\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-$$
$$B\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2+12 (A+B)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$3 (2 A+7 B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$\left.B\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\text{Sin}\left[\frac{3}{2}(e+f x)\right]\right)$$

Problem 95: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^2 (A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^{5/2}}\,dx$$

Optimal (type 3, 175 leaves, 6 steps):

$$\frac{3 a^2 (A+9 B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2}\sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{4\sqrt{2}\,c^{5/2} f}+$$
$$\frac{a^2 (A+B)\,c^2\,\text{Cos}[e+f x]^5}{4 f (c-c\,\text{Sin}[e+f x])^{9/2}}-\frac{a^2 (A+9 B)\,\text{Cos}[e+f x]^3}{8 f (c-c\,\text{Sin}[e+f x])^{5/2}}-\frac{3 a^2 (A+9 B)\,\text{Cos}[e+f x]}{8 c^2 f \sqrt{c-c\,\text{Sin}[e+f x]}}$$

Result (type 3, 344 leaves):

$$\frac{1}{4 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 (c-c\,\text{Sin}[e+f x])^{5/2}}$$
$$a^2 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) \left(4 (A+B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)-\right.$$
$$(5 A+13 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3-(3+3 i) (-1)^{1/4} (A+9 B)$$
$$\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right) (-1)^{1/4} \left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4-$$
$$8 B\,\text{Cos}\left[\frac{1}{2}(e+f x)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4+8 (A+B)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$2 (5 A+13 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$\left.8 B \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 \text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) (1+\text{Sin}[e+f x])^2$$

Problem 96: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^2 (A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^{7/2}}\,dx$$

Optimal (type 3, 175 leaves, 6 steps):

$$\frac{a^2 (A-11 B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{16 \sqrt{2}\, c^{7/2} f}+\frac{a^2 (A+B) c^2 \text{Cos}[e+f x]^5}{6 f (c-c\,\text{Sin}[e+f x])^{11/2}}+$$
$$\frac{a^2 (A-11 B)\,\text{Cos}[e+f x]^3}{24 f (c-c\,\text{Sin}[e+f x])^{7/2}}-\frac{a^2 (A-11 B)\,\text{Cos}[e+f x]}{16 c^2 f (c-c\,\text{Sin}[e+f x])^{3/2}}$$

Result (type 3, 342 leaves):

$$\frac{1}{48 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 (c-c\,\text{Sin}[e+f x])^{7/2}}$$
$$a^2 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)$$
$$\Bigg(32 (A+B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)-4 (7 A+19 B)$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3+3 (A+21 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5-$$
$$(3+3 i) (-1)^{1/4} (A-11 B)\, \text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right) (-1)^{1/4} \left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6+64 (A+B)\, \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$8 (7 A+19 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$6 (A+21 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 \text{Sin}\left[\frac{1}{2}(e+f x)\right]\Bigg) (1+\text{Sin}[e+f x])^2$$

Problem 97: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^2 (A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^{9/2}}\, dx$$

Optimal (type 3, 222 leaves, 7 steps):

$$\frac{a^2 (3 A-13 B)\, \text{ArcTanh}\left[\frac{\sqrt{c}\, \text{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{256 \sqrt{2}\, c^{9/2} f}+\frac{a^2 (A+B)\, c^2 \text{Cos}[e+f x]^5}{8 f (c-c\,\text{Sin}[e+f x])^{13/2}}+$$
$$\frac{a^2 (3 A-13 B)\, \text{Cos}[e+f x]^3}{48 f (c-c\,\text{Sin}[e+f x])^{9/2}}-\frac{a^2 (3 A-13 B)\, \text{Cos}[e+f x]}{64 c^2 f (c-c\,\text{Sin}[e+f x])^{5/2}}+\frac{a^2 (3 A-13 B)\, \text{Cos}[e+f x]}{256 c^3 f (c-c\,\text{Sin}[e+f x])^{3/2}}$$

Result (type 3, 357 leaves):

$$\frac{1}{6144\, f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 (c-c\,\text{Sin}[e+f x])^{9/2}}\, a^2 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) (1+\text{Sin}[e+f x])^2 \left(2013\, A\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]+1517\, B\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]-999\, A\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]-791\, B\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]-69\, A\,\text{Cos}\left[\frac{5}{2}(e+f x)\right]-725\, B\,\text{Cos}\left[\frac{5}{2}(e+f x)\right]-9\, A\,\text{Cos}\left[\frac{7}{2}(e+f x)\right]+39\, B\,\text{Cos}\left[\frac{7}{2}(e+f x)\right]-(24+24\,i)(-1)^{1/4}(3A-13B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^8+2013\, A\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]+1517\, B\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]+999\, A\,\text{Sin}\left[\frac{3}{2}(e+f x)\right]+791\, B\,\text{Sin}\left[\frac{3}{2}(e+f x)\right]-69\, A\,\text{Sin}\left[\frac{5}{2}(e+f x)\right]-725\, B\,\text{Sin}\left[\frac{5}{2}(e+f x)\right]+9\, A\,\text{Sin}\left[\frac{7}{2}(e+f x)\right]-39\, B\,\text{Sin}\left[\frac{7}{2}(e+f x)\right]\right)$$

Problem 98: Result more than twice size of optimal antiderivative.

$$\int (a+a\,\text{Sin}[e+f x])^3 (A+B\,\text{Sin}[e+f x]) (c-c\,\text{Sin}[e+f x])^{7/2}\, dx$$

Optimal (type 3, 210 leaves, 6 steps):

$$\frac{256\, a^3 (15 A-B)\, c^7\, \text{Cos}[e+f x]^7}{45045\, f\, (c-c\,\text{Sin}[e+f x])^{7/2}}+\frac{64\, a^3 (15 A-B)\, c^6\, \text{Cos}[e+f x]^7}{6435\, f\, (c-c\,\text{Sin}[e+f x])^{5/2}}+\frac{8\, a^3 (15 A-B)\, c^5\, \text{Cos}[e+f x]^7}{715\, f\, (c-c\,\text{Sin}[e+f x])^{3/2}}+\frac{2\, a^3 (15 A-B)\, c^4\, \text{Cos}[e+f x]^7}{195\, f\, \sqrt{c-c\,\text{Sin}[e+f x]}}-\frac{2\, a^3\, B\, c^3\, \text{Cos}[e+f x]^7 \sqrt{c-c\,\text{Sin}[e+f x]}}{15\, f}$$

Result (type 3, 1569 leaves):

$$\left(5 (8A-B)\,\text{Cos}\left[\frac{1}{2}(e+f x)\right] (a+a\,\text{Sin}[e+f x])^3 (c-c\,\text{Sin}[e+f x])^{7/2}\right) \Big/ \left(64\, f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6\right) - \left(5 (6A+B)\,\text{Cos}\left[\frac{3}{2}(e+f x)\right] (a+a\,\text{Sin}[e+f x])^3 (c-c\,\text{Sin}[e+f x])^{7/2}\right) \Big/ \left(192\, f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6\right) + \left(3 (10A-3B)\,\text{Cos}\left[\frac{5}{2}(e+f x)\right] (a+a\,\text{Sin}[e+f x])^3 (c-c\,\text{Sin}[e+f x])^{7/2}\right) \Big/ \left(320\, f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6\right) - \left(3 (4A+3B)\,\text{Cos}\left[\frac{7}{2}(e+f x)\right] (a+a\,\text{Sin}[e+f x])^3 (c-c\,\text{Sin}[e+f x])^{7/2}\right) \Big/$$

$$\left(448\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left((12\,A-5\,B)\,\text{Cos}\left[\frac{9}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/$$

$$\left(576\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)-$$

$$\left((2\,A+5\,B)\,\text{Cos}\left[\frac{11}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/$$

$$\left(704\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left((2\,A-B)\,\text{Cos}\left[\frac{13}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/$$

$$\left(832\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)-$$

$$\left(B\,\text{Cos}\left[\frac{15}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/$$

$$\left(960\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left(5\,(8\,A-B)\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)\Big/$$

$$\left(64\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left(5\,(6\,A+B)\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]\right)\Big/$$

$$\left(192\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left(3\,(10\,A-3\,B)\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]\right)\Big/$$

$$\left(320\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left(3\,(4\,A+3\,B)\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]\right)\Big/$$

$$\left(448\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left((12\,A-5\,B)\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\,\text{Sin}\left[\frac{9}{2}\,(e+f\,x)\right]\right)\Big/$$

$$\left(576\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left((2\,A+5\,B)\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\,\text{Sin}\left[\frac{11}{2}\,(e+f\,x)\right]\right)\Big/$$

$$\left(704\, f \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7 \left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\right)+$$

$$\left((2\,A-B)\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\,\text{Sin}\left[\frac{13}{2}\,(e+f\,x)\right]\right)\Big/$$

$$\left(832\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\right)+$$
$$\left(B\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\,\text{Sin}\left[\frac{15}{2}(e+f\,x)\right]\right)\Big/$$
$$\left(960\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\right)$$

Problem 99: Result more than twice size of optimal antiderivative.

$$\int(a+a\,\text{Sin}[e+f\,x])^3\,(A+B\,\text{Sin}[e+f\,x])\,(c-c\,\text{Sin}[e+f\,x])^{5/2}\,dx$$

Optimal (type 3, 161 leaves, 5 steps):

$$\frac{64\,a^3\,(13\,A+B)\,c^6\,\text{Cos}[e+f\,x]^7}{9009\,f\,(c-c\,\text{Sin}[e+f\,x])^{7/2}}+\frac{16\,a^3\,(13\,A+B)\,c^5\,\text{Cos}[e+f\,x]^7}{1287\,f\,(c-c\,\text{Sin}[e+f\,x])^{5/2}}+$$
$$\frac{2\,a^3\,(13\,A+B)\,c^4\,\text{Cos}[e+f\,x]^7}{143\,f\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}-\frac{2\,a^3\,B\,c^3\,\text{Cos}[e+f\,x]^7}{13\,f\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}$$

Result (type 3, 1351 leaves):

$$\left(5\,A\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{5/2}\right)\Big/$$
$$\left(8\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\right)-$$
$$\left(5\,(4\,A+B)\,\text{Cos}\left[\frac{3}{2}(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{5/2}\right)\Big/$$
$$\left(96\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\right)+$$
$$\left((2\,A-B)\,\text{Cos}\left[\frac{5}{2}(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{5/2}\right)\Big/$$
$$\left(32\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\right)-$$
$$\left((5\,A+2\,B)\,\text{Cos}\left[\frac{7}{2}(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{5/2}\right)\Big/$$
$$\left(112\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\right)+$$
$$\left((A-2\,B)\,\text{Cos}\left[\frac{9}{2}(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{5/2}\right)\Big/$$
$$\left(144\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\right)-$$
$$\left((2\,A+B)\,\text{Cos}\left[\frac{11}{2}(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{5/2}\right)\Big/$$
$$\left(352\,f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\right)-$$
$$\left(B\,\text{Cos}\left[\frac{13}{2}(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{5/2}\right)\Big/$$

$$\left(416\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^5 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)+$$
$$\left(5\, A \sin\left[\frac{1}{2}(e+f x)\right] (a+a \sin[e+f x])^3 (c-c \sin[e+f x])^{5/2}\right)\Big/$$
$$\left(8\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^5 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)+$$
$$\left(5\,(4 A+B) (a+a \sin[e+f x])^3 (c-c \sin[e+f x])^{5/2} \sin\left[\frac{3}{2}(e+f x)\right]\right)\Big/$$
$$\left(96\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^5 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)+$$
$$\left((2 A-B) (a+a \sin[e+f x])^3 (c-c \sin[e+f x])^{5/2} \sin\left[\frac{5}{2}(e+f x)\right]\right)\Big/$$
$$\left(32\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^5 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)+$$
$$\left((5 A+2 B) (a+a \sin[e+f x])^3 (c-c \sin[e+f x])^{5/2} \sin\left[\frac{7}{2}(e+f x)\right]\right)\Big/$$
$$\left(112\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^5 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)+$$
$$\left((A-2 B) (a+a \sin[e+f x])^3 (c-c \sin[e+f x])^{5/2} \sin\left[\frac{9}{2}(e+f x)\right]\right)\Big/$$
$$\left(144\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^5 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)+$$
$$\left((2 A+B) (a+a \sin[e+f x])^3 (c-c \sin[e+f x])^{5/2} \sin\left[\frac{11}{2}(e+f x)\right]\right)\Big/$$
$$\left(352\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^5 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)-$$
$$\left(B (a+a \sin[e+f x])^3 (c-c \sin[e+f x])^{5/2} \sin\left[\frac{13}{2}(e+f x)\right]\right)\Big/$$
$$\left(416\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^5 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)$$

Problem 100: Result more than twice size of optimal antiderivative.

$$\int (a+a \sin[e+f x])^3 (A+B \sin[e+f x]) (c-c \sin[e+f x])^{3/2}\, dx$$

Optimal (type 3, 124 leaves, 4 steps):

$$\frac{8 a^3 (11 A+3 B) c^5 \cos[e+f x]^7}{693 f (c-c \sin[e+f x])^{7/2}}+\frac{2 a^3 (11 A+3 B) c^4 \cos[e+f x]^7}{99 f (c-c \sin[e+f x])^{5/2}}-\frac{2 a^3 B c^3 \cos[e+f x]^7}{11 f (c-c \sin[e+f x])^{3/2}}$$

Result (type 3, 1157 leaves):

$$\left((6 A+B) \cos\left[\frac{1}{2}(e+f x)\right] (a+a \sin[e+f x])^3 (c-c \sin[e+f x])^{3/2}\right)\Big/$$
$$\left(8\, f \left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^3 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^6\right)-$$

$$\left((8A+3B)\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\right)\Big/$$
$$\left(24f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)-$$
$$\left(B\,\text{Cos}\left[\frac{5}{2}(e+fx)\right]\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\right)\Big/$$
$$\left(16f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)-$$
$$\left((6A+B)\,\text{Cos}\left[\frac{7}{2}(e+fx)\right]\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\right)\Big/$$
$$\left(112f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)-$$
$$\left((2A+3B)\,\text{Cos}\left[\frac{9}{2}(e+fx)\right]\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\right)\Big/$$
$$\left(144f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)+$$
$$\left(B\,\text{Cos}\left[\frac{11}{2}(e+fx)\right]\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\right)\Big/$$
$$\left(176f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)+$$
$$\left((6A+B)\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\right)\Big/$$
$$\left(8f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)+$$
$$\left((8A+3B)\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\text{Sin}\left[\frac{3}{2}(e+fx)\right]\right)\Big/$$
$$\left(24f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)-$$
$$\left(B\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\text{Sin}\left[\frac{5}{2}(e+fx)\right]\right)\Big/$$
$$\left(16f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)+$$
$$\left((6A+B)\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\text{Sin}\left[\frac{7}{2}(e+fx)\right]\right)\Big/$$
$$\left(112f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)-$$
$$\left((2A+3B)\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\text{Sin}\left[\frac{9}{2}(e+fx)\right]\right)\Big/$$
$$\left(144f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)-$$
$$\left(B\left(a+a\,\text{Sin}[e+fx]\right)^3\left(c-c\,\text{Sin}[e+fx]\right)^{3/2}\text{Sin}\left[\frac{11}{2}(e+fx)\right]\right)\Big/$$
$$\left(176f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6\right)$$

Problem 102: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a+a\,\text{Sin}[e+f\,x])^3\,(A+B\,\text{Sin}[e+f\,x])}{\sqrt{c-c\,\text{Sin}[e+f\,x]}}\,dx$$

Optimal (type 3, 200 leaves, 7 steps):

$$\frac{8\sqrt{2}\,a^3\,(A+B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f\,x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}\right]}{\sqrt{c}\,f}-\frac{2\,a^3\,B\,c^3\,\text{Cos}[e+f\,x]^7}{7\,f\,(c-c\,\text{Sin}[e+f\,x])^{7/2}}-\frac{2\,a^3\,(A+B)\,c^2\,\text{Cos}[e+f\,x]^5}{5\,f\,(c-c\,\text{Sin}[e+f\,x])^{5/2}}-\frac{4\,a^3\,(A+B)\,c\,\text{Cos}[e+f\,x]^3}{3\,f\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}-\frac{8\,a^3\,(A+B)\,\text{Cos}[e+f\,x]}{f\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}$$

Result (type 3, 193 leaves):

$$-\frac{1}{420\,f\,\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^6\sqrt{c-c\,\text{Sin}[e+f\,x]}}\,a^3\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)(1+\text{Sin}[e+f\,x])^3\left((6720+6720\,i)\,(-1)^{1/4}\,(A+B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f\,x)\right]\right)\right]-2\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(-2086\,A-2236\,B+6\,(7\,A+22\,B)\,\text{Cos}[2\,(e+f\,x)]-(448\,A+673\,B)\,\text{Sin}[e+f\,x]+15\,B\,\text{Sin}[3\,(e+f\,x)]\right)\right)$$

Problem 103: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f\,x])^3\,(A+B\,\text{Sin}[e+f\,x])}{(c-c\,\text{Sin}[e+f\,x])^{3/2}}\,dx$$

Optimal (type 3, 218 leaves, 7 steps):

$$-\frac{2\sqrt{2}\,a^3\,(5\,A+9\,B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f\,x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}\right]}{c^{3/2}\,f}+\frac{a^3\,(A+B)\,c^3\,\text{Cos}[e+f\,x]^7}{2\,f\,(c-c\,\text{Sin}[e+f\,x])^{9/2}}+\frac{a^3\,(5\,A+9\,B)\,c\,\text{Cos}[e+f\,x]^5}{10\,f\,(c-c\,\text{Sin}[e+f\,x])^{5/2}}+\frac{a^3\,(5\,A+9\,B)\,\text{Cos}[e+f\,x]^3}{3\,f\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}+\frac{2\,a^3\,(5\,A+9\,B)\,\text{Cos}[e+f\,x]}{c\,f\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}$$

Result (type 3, 444 leaves):

$$\frac{1}{30 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6 (c-c\,\text{Sin}[e+f x])^{3/2}}$$
$$a^3 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) (1+\text{Sin}[e+f x])^3$$
$$\Bigg(120 (A+B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)+(120+120 i) (-1)^{1/4} (5 A+9 B)$$
$$\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right) (-1)^{1/4} \left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2+$$
$$30 (9 A+20 B) \text{Cos}\left[\frac{1}{2}(e+f x)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-$$
$$5 (2 A+9 B) \text{Cos}\left[\frac{3}{2}(e+f x)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-$$
$$3 B\,\text{Cos}\left[\frac{5}{2}(e+f x)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2+240 (A+B) \text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$30 (9 A+20 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$5 (2 A+9 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-$$
$$3 B \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]\Bigg)$$

Problem 104: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^3 (A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^{5/2}}\,dx$$

Optimal (type 3, 225 leaves, 7 steps):

$$\frac{5 a^3 (3 A+11 B) \text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{2 \sqrt{2}\, c^{5/2} f}+\frac{a^3 (A+B) c^3 \text{Cos}[e+f x]^7}{4 f (c-c\,\text{Sin}[e+f x])^{11/2}}-$$
$$\frac{a^3 (3 A+11 B) c\,\text{Cos}[e+f x]^5}{8 f (c-c\,\text{Sin}[e+f x])^{7/2}}-\frac{5 a^3 (3 A+11 B) \text{Cos}[e+f x]^3}{24 c f (c-c\,\text{Sin}[e+f x])^{3/2}}-\frac{5 a^3 (3 A+11 B) \text{Cos}[e+f x]}{4 c^2 f \sqrt{c-c\,\text{Sin}[e+f x]}}$$

Result (type 3, 434 leaves):

$$\frac{1}{6 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6 (c-c\,\text{Sin}[e+f x])^{5/2}}$$

$$a^3 \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) (1+\text{Sin}[e+f x])^3$$

$$\left(12 (A+B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)-\right.$$

$$3 (9 A+17 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3-(15+15\, i) (-1)^{1/4} (3 A+11 B)$$

$$\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right) (-1)^{1/4} \left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4-$$

$$6 (2 A+11 B)\, \text{Cos}\left[\frac{1}{2}(e+f x)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4+$$

$$2 B\, \text{Cos}\left[\frac{3}{2}(e+f x)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4+24 (A+B)\, \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$

$$6 (9 A+17 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$

$$6 (2 A+11 B) \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$

$$\left.2 B \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4 \text{Sin}\left[\frac{3}{2}(e+f x)\right]\right)$$

Problem 105: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^3 (A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^{7/2}}\, dx$$

Optimal (type 3, 217 leaves, 7 steps):

$$-\frac{5 a^3 (A+13 B)\, \text{ArcTanh}\left[\frac{\sqrt{c}\, \text{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{8 \sqrt{2}\, c^{7/2} f}+\frac{a^3 (A+B) c^3 \text{Cos}[e+f x]^7}{6 f (c-c\,\text{Sin}[e+f x])^{13/2}}-$$

$$\frac{a^3 (A+13 B) c\, \text{Cos}[e+f x]^5}{24 f (c-c\,\text{Sin}[e+f x])^{9/2}}+\frac{5 a^3 (A+13 B)\, \text{Cos}[e+f x]^3}{48 c f (c-c\,\text{Sin}[e+f x])^{5/2}}+\frac{5 a^3 (A+13 B)\, \text{Cos}[e+f x]}{16 c^3 f \sqrt{c-c\,\text{Sin}[e+f x]}}$$

Result (type 3, 910 leaves):

$$\frac{4\,(A+B)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2\,(a+a\,\text{Sin}[e+f\,x])^3}{3\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}}+$$

$$\left((-13\,A-25\,B)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^4\,(a+a\,\text{Sin}[e+f\,x])^3\right)\Big/\left(6\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)+$$

$$\left((11\,A+47\,B)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(a+a\,\text{Sin}[e+f\,x])^3\right)\Big/\left(8\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)+\left(\left(\frac{5}{8}+\frac{5\,i}{8}\right)\,(-1)^{1/4}\,(A+13\,B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)\,(-1)^{1/4}\,\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]\,\left(\text{Cos}\left[\frac{1}{4}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{4}\,(e+f\,x)\right]\right)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\,(a+a\,\text{Sin}[e+f\,x])^3\right)\Big/\left(f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)+$$

$$\left(2\,B\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\,(a+a\,\text{Sin}[e+f\,x])^3\right)\Big/\left(f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)+$$

$$\left(2\,B\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\,(a+a\,\text{Sin}[e+f\,x])^3\right)\Big/\left(f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)+$$

$$\left(\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\,\left(-13\,A\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-25\,B\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\,(a+a\,\text{Sin}[e+f\,x])^3\right)\Big/\left(3\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)+$$

$$\left(8\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\,\left(A\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+B\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\,(a+a\,\text{Sin}[e+f\,x])^3\right)\Big/\left(3\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)+$$

$$\left(\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5\,\left(11\,A\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+47\,B\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\,(a+a\,\text{Sin}[e+f\,x])^3\right)\Big/\left(4\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^6\,(c-c\,\text{Sin}[e+f\,x])^{7/2}\right)$$

Problem 106: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{(a+a\,\text{Sin}[e+f\,x])^3\,(A+B\,\text{Sin}[e+f\,x])}{(c-c\,\text{Sin}[e+f\,x])^{9/2}}\,dx$$

Optimal (type 3, 217 leaves, 7 steps):

$$-\frac{5 a^3 (A-15 B) \text{ArcTanh}\left[\frac{\sqrt{c} \text{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c \text{Sin}[e+f x]}}\right]}{128 \sqrt{2} c^{9/2} f}+\frac{a^3 (A+B) c^3 \text{Cos}[e+f x]^7}{8 f (c-c \text{Sin}[e+f x])^{15/2}}+\frac{a^3 (A-15 B) c \text{Cos}[e+f x]^5}{48 f (c-c \text{Sin}[e+f x])^{11/2}}-\frac{5 a^3 (A-15 B) \text{Cos}[e+f x]^3}{192 c f (c-c \text{Sin}[e+f x])^{7/2}}+\frac{5 a^3 (A-15 B) \text{Cos}[e+f x]}{128 c^3 f (c-c \text{Sin}[e+f x])^{3/2}}$$

Result (type 3, 431 leaves):

$$\left(\left(\frac{5}{128}+\frac{5 i}{128}\right) (-1)^{1/4} (A-15 B) \text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right) (-1)^{1/4} \text{Sec}\left[\frac{1}{4} (e+f x)\right] \left(\text{Cos}\left[\frac{1}{4} (e+f x)\right]+\text{Sin}\left[\frac{1}{4} (e+f x)\right]\right)\right] \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^9 (a+a \text{Sin}[e+f x])^3\right) \Big/ \left(f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^6 (c-c \text{Sin}[e+f x])^{9/2}\right)+\frac{1}{3072 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^6 (c-c \text{Sin}[e+f x])^{9/2}} \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right) (a+a \text{Sin}[e+f x])^3 \left(1765 A \text{Cos}\left[\frac{1}{2} (e+f x)\right]+405 B \text{Cos}\left[\frac{1}{2} (e+f x)\right]-895 A \text{Cos}\left[\frac{3}{2} (e+f x)\right]-2703 B \text{Cos}\left[\frac{3}{2} (e+f x)\right]-397 A \text{Cos}\left[\frac{5}{2} (e+f x)\right]+579 B \text{Cos}\left[\frac{5}{2} (e+f x)\right]+15 A \text{Cos}\left[\frac{7}{2} (e+f x)\right]+543 B \text{Cos}\left[\frac{7}{2} (e+f x)\right]+1765 A \text{Sin}\left[\frac{1}{2} (e+f x)\right]+405 B \text{Sin}\left[\frac{1}{2} (e+f x)\right]+895 A \text{Sin}\left[\frac{3}{2} (e+f x)\right]+2703 B \text{Sin}\left[\frac{3}{2} (e+f x)\right]-397 A \text{Sin}\left[\frac{5}{2} (e+f x)\right]+579 B \text{Sin}\left[\frac{5}{2} (e+f x)\right]-15 A \text{Sin}\left[\frac{7}{2} (e+f x)\right]-543 B \text{Sin}\left[\frac{7}{2} (e+f x)\right]\right)$$

Problem 107: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a+a \text{Sin}[e+f x])^3 (A+B \text{Sin}[e+f x])}{(c-c \text{Sin}[e+f x])^{11/2}} \, dx$$

Optimal (type 3, 266 leaves, 8 steps):

$$-\frac{a^3 (3 A-17 B) \text{ArcTanh}\left[\frac{\sqrt{c} \text{Cos}[e+f x]}{\sqrt{2} \sqrt{c-c \text{Sin}[e+f x]}}\right]}{512 \sqrt{2} c^{11/2} f}+\frac{a^3 (A+B) c^3 \text{Cos}[e+f x]^7}{10 f (c-c \text{Sin}[e+f x])^{17/2}}+\frac{a^3 (3 A-17 B) c \text{Cos}[e+f x]^5}{80 f (c-c \text{Sin}[e+f x])^{13/2}}-\frac{a^3 (3 A-17 B) \text{Cos}[e+f x]^3}{96 c f (c-c \text{Sin}[e+f x])^{9/2}}+\frac{a^3 (3 A-17 B) \text{Cos}[e+f x]}{128 c^3 f (c-c \text{Sin}[e+f x])^{5/2}}-\frac{a^3 (3 A-17 B) \text{Cos}[e+f x]}{512 c^4 f (c-c \text{Sin}[e+f x])^{3/2}}$$

Result (type 3, 485 leaves):

$$\left(\left(\frac{1}{512}+\frac{i}{512}\right)(-1)^{1/4}(3A-17B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\,\text{Sec}\left[\frac{1}{4}(e+fx)\right]\left(\text{Cos}\left[\frac{1}{4}(e+fx)\right]+\text{Sin}\left[\frac{1}{4}(e+fx)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^{11}(a+a\,\text{Sin}[e+fx])^3\right)\Big/\left(f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6(c-c\,\text{Sin}[e+fx])^{11/2}\right)+\left(\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)(a+a\,\text{Sin}[e+fx])^3\left(56370\,A\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]+38970\,B\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]-31140\,A\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]-38580\,B\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]-10404\,A\,\text{Cos}\left[\frac{5}{2}(e+fx)\right]-12724\,B\,\text{Cos}\left[\frac{5}{2}(e+fx)\right]+435\,A\,\text{Cos}\left[\frac{7}{2}(e+fx)\right]+7775\,B\,\text{Cos}\left[\frac{7}{2}(e+fx)\right]-45\,A\,\text{Cos}\left[\frac{9}{2}(e+fx)\right]+255\,B\,\text{Cos}\left[\frac{9}{2}(e+fx)\right]+56370\,A\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]+38970\,B\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]+31140\,A\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]+38580\,B\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]-10404\,A\,\text{Sin}\left[\frac{5}{2}(e+fx)\right]-12724\,B\,\text{Sin}\left[\frac{5}{2}(e+fx)\right]-435\,A\,\text{Sin}\left[\frac{7}{2}(e+fx)\right]-7775\,B\,\text{Sin}\left[\frac{7}{2}(e+fx)\right]-45\,A\,\text{Sin}\left[\frac{9}{2}(e+fx)\right]+255\,B\,\text{Sin}\left[\frac{9}{2}(e+fx)\right]\right)\right)\Big/\left(122880\,f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^6(c-c\,\text{Sin}[e+fx])^{11/2}\right)$$

Problem 108: Result more than twice size of optimal antiderivative.

$$\int\frac{(A+B\,\text{Sin}[e+fx])\,(c-c\,\text{Sin}[e+fx])^{7/2}}{a+a\,\text{Sin}[e+fx]}\,dx$$

Optimal (type 3, 200 leaves, 6 steps):

$$-\frac{128\,(7A-9B)\,c^4\,\text{Cos}[e+fx]}{35\,a\,f\,\sqrt{c-c\,\text{Sin}[e+fx]}}-\frac{32\,(7A-9B)\,c^3\,\text{Cos}[e+fx]\,\sqrt{c-c\,\text{Sin}[e+fx]}}{35\,a\,f}-\frac{12\,(7A-9B)\,c^2\,\text{Cos}[e+fx]\,(c-c\,\text{Sin}[e+fx])^{3/2}}{35\,a\,f}-\frac{(7A-9B)\,c\,\text{Cos}[e+fx]\,(c-c\,\text{Sin}[e+fx])^{5/2}}{7\,a\,f}-\frac{(A-B)\,\text{Sec}[e+fx]\,(c-c\,\text{Sin}[e+fx])^{9/2}}{a\,c\,f}$$

Result (type 3, 864 leaves):

$$-\left(\left(16\,(A-B)\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)(c-c\sin[e+f x])^{7/2}\right)\Big/\right.$$
$$\left.\left(f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)\right)-$$
$$\left((76 A-111 B)\cos\left[\frac{1}{2}(e+f x)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2(c-c\sin[e+f x])^{7/2}\right)\Big/$$
$$\left(4 f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)-$$
$$\left((6 A-13 B)\cos\left[\frac{3}{2}(e+f x)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2(c-c\sin[e+f x])^{7/2}\right)\Big/$$
$$\left(4 f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)+$$
$$\left((2 A-9 B)\cos\left[\frac{5}{2}(e+f x)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2(c-c\sin[e+f x])^{7/2}\right)\Big/$$
$$\left(20 f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)-$$
$$\left(B\cos\left[\frac{7}{2}(e+f x)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2(c-c\sin[e+f x])^{7/2}\right)\Big/$$
$$\left(28 f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)-$$
$$\left((76 A-111 B)\sin\left[\frac{1}{2}(e+f x)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2(c-c\sin[e+f x])^{7/2}\right)\Big/$$
$$\left(4 f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)+$$
$$\left((6 A-13 B)\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2(c-c\sin[e+f x])^{7/2}\sin\left[\frac{3}{2}(e+f x)\right]\right)\Big/$$
$$\left(4 f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)+$$
$$\left((2 A-9 B)\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2(c-c\sin[e+f x])^{7/2}\sin\left[\frac{5}{2}(e+f x)\right]\right)\Big/$$
$$\left(20 f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)+$$
$$\left(B\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2(c-c\sin[e+f x])^{7/2}\sin\left[\frac{7}{2}(e+f x)\right]\right)\Big/$$
$$\left(28 f\left(\cos\left[\frac{1}{2}(e+f x)\right]-\sin\left[\frac{1}{2}(e+f x)\right]\right)^7(a+a\sin[e+f x])\right)$$

Problem 112: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{A+B\sin[e+f x]}{(a+a\sin[e+f x])\sqrt{c-c\sin[e+f x]}}\,dx$$

Optimal (type 3, 91 leaves, 4 steps) :

$$\frac{(A+B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{\sqrt{2}\,a\,\sqrt{c}\,f}-\frac{(A-B)\,\text{Sec}[e+f x]\,\sqrt{c-c\,\text{Sin}[e+f x]}}{a\,c\,f}$$

Result (type 3, 140 leaves):

$$\left(\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(-A+B-(1+i)(-1)^{1/4}(A+B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\right)\right)\Big/\left(a\,f\,(1+\text{Sin}[e+f x])\,\sqrt{c-c\,\text{Sin}[e+f x]}\right)$$

Problem 113: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{A+B\,\text{Sin}[e+f x]}{(a+a\,\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])^{3/2}}\,dx$$

Optimal (type 3, 136 leaves, 5 steps):

$$\frac{(3A-B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{4\sqrt{2}\,a\,c^{3/2}\,f}+\frac{(3A-B)\,\text{Cos}[e+f x]}{4\,a\,f\,(c-c\,\text{Sin}[e+f x])^{3/2}}-\frac{(A-B)\,\text{Sec}[e+f x]}{a\,c\,f\,\sqrt{c-c\,\text{Sin}[e+f x]}}$$

Result (type 3, 284 leaves):

$$\frac{1}{4\,a\,f\,(1+\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])^{3/2}}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(2(-A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2+(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)-(1+i)(-1)^{1/4}(3A-B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)+2(A+B)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\right)$$

Problem 114: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{A+B\,\text{Sin}[e+f x]}{(a+a\,\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])^{5/2}}\,dx$$

Optimal (type 3, 180 leaves, 6 steps):

$$\frac{3\,(5\,A-3\,B)\,\mathrm{ArcTanh}\left[\frac{\sqrt{c}\,\mathrm{Cos}[e+f\,x]}{\sqrt{2}\,\sqrt{c-c\,\mathrm{Sin}[e+f\,x]}}\right]}{32\,\sqrt{2}\,a\,c^{5/2}\,f}+\frac{3\,(5\,A-3\,B)\,\mathrm{Cos}[e+f\,x]}{32\,a\,c\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{3/2}}+$$

$$\frac{(A+B)\,\mathrm{Sec}[e+f\,x]}{4\,a\,c\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{3/2}}-\frac{(5\,A-3\,B)\,\mathrm{Sec}[e+f\,x]}{8\,a\,c^2\,f\,\sqrt{c-c\,\mathrm{Sin}[e+f\,x]}}$$

Result (type 3, 404 leaves):

$$\frac{1}{32\,a\,f\,(1+\mathrm{Sin}[e+f\,x])\,(c-c\,\mathrm{Sin}[e+f\,x])^{5/2}}\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)$$
$$\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(8\,(-A+B)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4+\right.$$
$$4\,(A+B)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)+$$
$$(7\,A-B)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^3\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)-$$
$$(3+3\,i)\,(-1)^{1/4}\,(5\,A-3\,B)\,\mathrm{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\mathrm{Tan}\left[\frac{1}{4}(e+f\,x)\right]\right)\right]$$
$$\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)+$$
$$8\,(A+B)\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)+$$
$$2\,(7\,A-B)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^2$$
$$\left.\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\right)$$

Problem 115: Result more than twice size of optimal antiderivative.

$$\int\frac{(A+B\,\mathrm{Sin}[e+f\,x])\,(c-c\,\mathrm{Sin}[e+f\,x])^{9/2}}{(a+a\,\mathrm{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 3, 242 leaves, 7 steps):

$$\frac{2048\,(7\,A-13\,B)\,c^4\,\mathrm{Sec}[e+f\,x]\,\sqrt{c-c\,\mathrm{Sin}[e+f\,x]}}{105\,a^2\,f}-$$
$$\frac{512\,(7\,A-13\,B)\,c^3\,\mathrm{Sec}[e+f\,x]\,(c-c\,\mathrm{Sin}[e+f\,x])^{3/2}}{105\,a^2\,f}-$$
$$\frac{64\,(7\,A-13\,B)\,c^2\,\mathrm{Sec}[e+f\,x]\,(c-c\,\mathrm{Sin}[e+f\,x])^{5/2}}{105\,a^2\,f}-$$
$$\frac{16\,(7\,A-13\,B)\,c\,\mathrm{Sec}[e+f\,x]\,(c-c\,\mathrm{Sin}[e+f\,x])^{7/2}}{105\,a^2\,f}-$$
$$\frac{(7\,A-13\,B)\,\mathrm{Sec}[e+f\,x]\,(c-c\,\mathrm{Sin}[e+f\,x])^{9/2}}{21\,a^2\,f}-\frac{(A-B)\,\mathrm{Sec}[e+f\,x]^3\,(c-c\,\mathrm{Sin}[e+f\,x])^{13/2}}{3\,a^2\,c^2\,f}$$

Result (type 3, 953 leaves):

$$-\left(\left(32\,(A-B)\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)(c-c\sin[e+fx])^{9/2}\right)\Big/\left(3f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)\right)+$$
$$\left(32\,(2A-3B)\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^3(c-c\sin[e+fx])^{9/2}\right)\Big/\left(f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)+$$
$$\left((164A-351B)\cos\left[\frac{1}{2}(e+fx)\right]\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^4(c-c\sin[e+fx])^{9/2}\right)\Big/\left(4f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)+$$
$$\left((26A-83B)\cos\left[\frac{3}{2}(e+fx)\right]\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^4(c-c\sin[e+fx])^{9/2}\right)\Big/\left(12f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)-$$
$$\left((2A-13B)\cos\left[\frac{5}{2}(e+fx)\right]\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^4(c-c\sin[e+fx])^{9/2}\right)\Big/\left(20f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)+$$
$$\left(B\cos\left[\frac{7}{2}(e+fx)\right]\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^4(c-c\sin[e+fx])^{9/2}\right)\Big/\left(28f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)+$$
$$\left((164A-351B)\sin\left[\frac{1}{2}(e+fx)\right]\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^4(c-c\sin[e+fx])^{9/2}\right)\Big/\left(4f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)-$$
$$\left((26A-83B)\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^4(c-c\sin[e+fx])^{9/2}\sin\left[\frac{3}{2}(e+fx)\right]\right)\Big/\left(12f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)-$$
$$\left((2A-13B)\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^4(c-c\sin[e+fx])^{9/2}\sin\left[\frac{5}{2}(e+fx)\right]\right)\Big/\left(20f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)-$$
$$\left(B\left(\cos\left[\frac{1}{2}(e+fx)\right]+\sin\left[\frac{1}{2}(e+fx)\right]\right)^4(c-c\sin[e+fx])^{9/2}\sin\left[\frac{7}{2}(e+fx)\right]\right)\Big/\left(28f\left(\cos\left[\frac{1}{2}(e+fx)\right]-\sin\left[\frac{1}{2}(e+fx)\right]\right)^9(a+a\sin[e+fx])^2\right)$$

Problem 120: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B\,\text{Sin}[e+f\,x]}{(a+a\,\text{Sin}[e+f\,x])^2\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}\,dx$$

Optimal (type 3, 135 leaves, 5 steps):

$$\frac{(A+B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f\,x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}\right]}{2\,\sqrt{2}\,a^2\,\sqrt{c}\,f}-\frac{(A+B)\,\text{Sec}[e+f\,x]\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}{2\,a^2\,c\,f}-\frac{(A-B)\,\text{Sec}[e+f\,x]^3\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}{3\,a^2\,c^2\,f}$$

Result (type 3, 176 leaves):

$$\left(\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(2\,(-A+B)-3\,(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^2-(3+3\,i)\,(-1)^{1/4}\,(A+B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f\,x)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^3\right)\right)\Big/\left(6\,a^2\,f\,(1+\text{Sin}[e+f\,x])^2\,\sqrt{c-c\,\text{Sin}[e+f\,x]}\right)$$

Problem 121: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B\,\text{Sin}[e+f\,x]}{(a+a\,\text{Sin}[e+f\,x])^2\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}\,dx$$

Optimal (type 3, 175 leaves, 6 steps):

$$\frac{(5\,A+B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f\,x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}\right]}{8\,\sqrt{2}\,a^2\,c^{3/2}\,f}+\frac{(5\,A+B)\,\text{Cos}[e+f\,x]}{8\,a^2\,f\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}-\frac{(5\,A+B)\,\text{Sec}[e+f\,x]}{6\,a^2\,c\,f\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}-\frac{(A-B)\,\text{Sec}[e+f\,x]^3\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}{3\,a^2\,c^2\,f}$$

Result (type 3, 300 leaves):

$$\frac{1}{24 a^2 f (1+\text{Sin}[e+f x])^2 (c-c\,\text{Sin}[e+f x])^{3/2}} \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)$$
$$\left(-12 A\,\text{Cos}[e+f x]^2+4(-A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2+\right.$$
$$3(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3-$$
$$(3+3 i)(-1)^{1/4}(5A+B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3+$$
$$\left.6(A+B)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3\right)$$

Problem 122: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B\,\text{Sin}[e+f x]}{(a+a\,\text{Sin}[e+f x])^2 (c-c\,\text{Sin}[e+f x])^{5/2}}\,dx$$

Optimal (type 3, 225 leaves, 7 steps):

$$\frac{5(7A-B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2}\sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{64\sqrt{2}\,a^2 c^{5/2} f}+\frac{5(7A-B)\,\text{Cos}[e+f x]}{64 a^2 c f (c-c\,\text{Sin}[e+f x])^{3/2}}+$$
$$\frac{(7A-B)\,\text{Sec}[e+f x]}{24 a^2 c f (c-c\,\text{Sin}[e+f x])^{3/2}}-\frac{5(7A-B)\,\text{Sec}[e+f x]}{48 a^2 c^2 f\sqrt{c-c\,\text{Sin}[e+f x]}}-\frac{(A-B)\,\text{Sec}[e+f x]^3}{3 a^2 c^2 f\sqrt{c-c\,\text{Sin}[e+f x]}}$$

Result (type 3, 430 leaves):

$$\frac{1}{192\, a^2\, f\, \left(1+\text{Sin}[e+f x]\right)^2 \left(c-c\, \text{Sin}[e+f x]\right)^{5/2}}$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)$$
$$\left(3\,(11 A+3 B)\,\text{Cos}[e+f x]^3+16\,(-A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4+\right.$$
$$24\,(-3 A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2+$$
$$12\,(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3-$$
$$(15+15\, i)\,(-1)^{1/4}\,(7 A-B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3+$$
$$24\,(A+B)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3+$$
$$6\,(11 A+3 B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2$$
$$\left.\text{Sin}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3\right)$$

Problem 123: Result more than twice size of optimal antiderivative.

$$\int \frac{\left(A+B\,\text{Sin}[e+f x]\right)\left(c-c\,\text{Sin}[e+f x]\right)^{9/2}}{\left(a+a\,\text{Sin}[e+f x]\right)^3}\,dx$$

Optimal (type 3, 242 leaves, 7 steps):

$$-\frac{2048\,(A-3 B)\,c^3\,\text{Sec}[e+f x]^3\left(c-c\,\text{Sin}[e+f x]\right)^{3/2}}{15\, a^3\, f}+$$
$$\frac{512\,(A-3 B)\,c^2\,\text{Sec}[e+f x]^3\left(c-c\,\text{Sin}[e+f x]\right)^{5/2}}{5\, a^3\, f}-$$
$$\frac{64\,(A-3 B)\,c\,\text{Sec}[e+f x]^3\left(c-c\,\text{Sin}[e+f x]\right)^{7/2}}{5\, a^3\, f}-\frac{16\,(A-3 B)\,\text{Sec}[e+f x]^3\left(c-c\,\text{Sin}[e+f x]\right)^{9/2}}{15\, a^3\, f}-$$
$$\frac{(A-3 B)\,\text{Sec}[e+f x]^3\left(c-c\,\text{Sin}[e+f x]\right)^{11/2}}{5\, a^3\, c\, f}-\frac{(A-B)\,\text{Sec}[e+f x]^5\left(c-c\,\text{Sin}[e+f x]\right)^{15/2}}{5\, a^3\, c^3\, f}$$

Result (type 3, 840 leaves):

$$-\left(\left(32\,(A-B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)(c-c\,\text{Sin}[e+f x])^{9/2}\right)\Big/\left(5 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)\right)+$$

$$\left(32\,(2 A-3 B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3(c-c\,\text{Sin}[e+f x])^{9/2}\right)\Big/\left(3 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)-$$

$$\left(16\,(3 A-7 B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5(c-c\,\text{Sin}[e+f x])^{9/2}\right)\Big/\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)-$$

$$\left((15 A-56 B)\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6(c-c\,\text{Sin}[e+f x])^{9/2}\right)\Big/\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)-$$

$$\left((2 A-15 B)\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6(c-c\,\text{Sin}[e+f x])^{9/2}\right)\Big/\left(6 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)-$$

$$\left(B\,\text{Cos}\left[\frac{5}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6(c-c\,\text{Sin}[e+f x])^{9/2}\right)\Big/\left(10 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)-$$

$$\left((15 A-56 B)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6(c-c\,\text{Sin}[e+f x])^{9/2}\right)\Big/\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)+$$

$$\left((2 A-15 B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6(c-c\,\text{Sin}[e+f x])^{9/2}\,\text{Sin}\left[\frac{3}{2}(e+f x)\right]\right)\Big/\left(6 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)-$$

$$\left(B\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6(c-c\,\text{Sin}[e+f x])^{9/2}\,\text{Sin}\left[\frac{5}{2}(e+f x)\right]\right)\Big/\left(10 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a+a\,\text{Sin}[e+f x])^3\right)$$

Problem 128: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{A+B\,\text{Sin}[e+f x]}{(a+a\,\text{Sin}[e+f x])^3\sqrt{c-c\,\text{Sin}[e+f x]}}\,dx$$

Optimal (type 3, 174 leaves, 6 steps):

$$\frac{(A+B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{4\sqrt{2}\,a^3\sqrt{c}\,f}-\frac{(A+B)\,\text{Sec}[e+f x]\,\sqrt{c-c\,\text{Sin}[e+f x]}}{4\,a^3\,c\,f}-\frac{(A+B)\,\text{Sec}[e+f x]^3\,(c-c\,\text{Sin}[e+f x])^{3/2}}{6\,a^3\,c^2\,f}-\frac{(A-B)\,\text{Sec}[e+f x]^5\,(c-c\,\text{Sin}[e+f x])^{5/2}}{5\,a^3\,c^3\,f}$$

Result (type 3, 204 leaves) :

$$\frac{1}{60\,a^3\,f\,(1+\text{Sin}[e+f x])^3\,\sqrt{c-c\,\text{Sin}[e+f x]}}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(12\,(-A+B)-10\,(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-15\,(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4-(15+15\,i)\,(-1)^{1/4}\,(A+B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)$$

Problem 129: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{A+B\,\text{Sin}[e+f x]}{(a+a\,\text{Sin}[e+f x])^3\,(c-c\,\text{Sin}[e+f x])^{3/2}}\,dx$$

Optimal (type 3, 224 leaves, 7 steps) :

$$\frac{(7A+3B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{16\sqrt{2}\,a^3\,c^{3/2}\,f}+\frac{(7A+3B)\,\text{Cos}[e+f x]}{16\,a^3\,f\,(c-c\,\text{Sin}[e+f x])^{3/2}}-\frac{(7A+3B)\,\text{Sec}[e+f x]}{12\,a^3\,c\,f\,\sqrt{c-c\,\text{Sin}[e+f x]}}-\frac{(7A+3B)\,\text{Sec}[e+f x]^3\,\sqrt{c-c\,\text{Sin}[e+f x]}}{30\,a^3\,c^2\,f}-\frac{(A-B)\,\text{Sec}[e+f x]^5\,(c-c\,\text{Sin}[e+f x])^{3/2}}{5\,a^3\,c^3\,f}$$

Result (type 3, 357 leaves) :

$$\frac{1}{240\, a^3\, f\, (1+\text{Sin}[e+f x])^3\, (c-c\,\text{Sin}[e+f x])^{3/2}}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)$$
$$\left(-40\, A\,\text{Cos}[e+f x]^2+24\,(-A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-\right.$$
$$30\,(3 A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4+$$
$$15\,(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5-$$
$$(15+15\, i)\,(-1)^{1/4}\,(7 A+3 B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5+$$
$$\left.30\,(A+B)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)$$

Problem 130: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B\,\text{Sin}[e+f x]}{(a+a\,\text{Sin}[e+f x])^3\,(c-c\,\text{Sin}[e+f x])^{5/2}}\, dx$$

Optimal (type 3, 258 leaves, 8 steps):

$$\frac{7\,(9 A+B)\,\text{ArcTanh}\left[\frac{\sqrt{c}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{c-c\,\text{Sin}[e+f x]}}\right]}{128\,\sqrt{2}\,a^3\,c^{5/2}\,f}+\frac{7\,(9 A+B)\,\text{Cos}[e+f x]}{128\,a^3\,c\,f\,(c-c\,\text{Sin}[e+f x])^{3/2}}+$$
$$\frac{7\,(9 A+B)\,\text{Sec}[e+f x]}{240\,a^3\,c\,f\,(c-c\,\text{Sin}[e+f x])^{3/2}}-\frac{7\,(9 A+B)\,\text{Sec}[e+f x]}{96\,a^3\,c^2\,f\,\sqrt{c-c\,\text{Sin}[e+f x]}}-$$
$$\frac{(9 A+B)\,\text{Sec}[e+f x]^3}{30\,a^3\,c^2\,f\,\sqrt{c-c\,\text{Sin}[e+f x]}}-\frac{(A-B)\,\text{Sec}[e+f x]^5\,\sqrt{c-c\,\text{Sin}[e+f x]}}{5\,a^3\,c^3\,f}$$

Result (type 3, 479 leaves):

$$\frac{1}{1920\,a^3\,f\,(1+\text{Sin}[e+f\,x])^3\,(c-c\,\text{Sin}[e+f\,x])^{5/2}}$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)$$
$$\Big(-720\,A\,\text{Cos}[e+f\,x]^4+96\,(-A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4+$$
$$80\,(-3\,A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^2+$$
$$60\,(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5+$$
$$15\,(15\,A+7\,B)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^3\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5-$$
$$(105+105\,i)\,(-1)^{1/4}\,(9\,A+B)\,\text{ArcTan}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{1/4}\left(1+\text{Tan}\left[\frac{1}{4}(e+f\,x)\right]\right)\right]$$
$$\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5+$$
$$120\,(A+B)\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5+$$
$$30\,(15\,A+7\,B)\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^2$$
$$\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5\Big)$$

Problem 135: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{\sqrt{a+a\,\text{Sin}[e+f\,x]}\,(A+B\,\text{Sin}[e+f\,x])}{\sqrt{c-c\,\text{Sin}[e+f\,x]}}\,dx$$

Optimal (type 3, 100 leaves, 5 steps):

$$-\frac{a\,(A+B)\,\text{Cos}[e+f\,x]\,\text{Log}[1-\text{Sin}[e+f\,x]]}{f\,\sqrt{a+a\,\text{Sin}[e+f\,x]}\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}+\frac{a\,B\,\text{Cos}[e+f\,x]\,\sqrt{c-c\,\text{Sin}[e+f\,x]}}{c\,f\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}$$

Result (type 3, 133 leaves):

$$-\Bigg(\Bigg(\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\sqrt{a\,(1+\text{Sin}[e+f\,x])}$$
$$\left(2\,i\,(A+B)\,\text{ArcTan}\left[e^{i\,(e+f\,x)}\right]+(A+B)\left(-i\,f\,x+\text{Log}\left[1+e^{2\,i\,(e+f\,x)}\right]\right)+B\,\text{Sin}[e+f\,x]\right)\Bigg)\Big/$$
$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\sqrt{c-c\,\text{Sin}[e+f\,x]}\right)\Bigg)$$

Problem 136: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{\sqrt{a+a\,\text{Sin}[e+f\,x]}\,(A+B\,\text{Sin}[e+f\,x])}{(c-c\,\text{Sin}[e+f\,x])^{3/2}}\,dx$$

Optimal (type 3, 99 leaves, 5 steps):

$$\frac{a\,(A+B)\,\mathrm{Cos}[e+f\,x]}{f\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}\,\left(c-c\,\mathrm{Sin}[e+f\,x]\right)^{3/2}}+\frac{a\,B\,\mathrm{Cos}[e+f\,x]\,\mathrm{Log}[1-\mathrm{Sin}[e+f\,x]]}{c\,f\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}\,\sqrt{c-c\,\mathrm{Sin}[e+f\,x]}}$$

Result (type 3, 177 leaves):

$$\left(\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\sqrt{a\,(1+\mathrm{Sin}[e+f\,x])}\,\left(-A-B+i\,B\,f\,x-B\,\mathrm{Log}\left[1+e^{2\,i\,(e+f\,x)}\right]+2\,i\,B\,\mathrm{ArcTan}\left[e^{i\,(e+f\,x)}\right]\,(-1+\mathrm{Sin}[e+f\,x])+B\,\left(-i\,f\,x+\mathrm{Log}\left[1+e^{2\,i\,(e+f\,x)}\right]\right)\mathrm{Sin}[e+f\,x]\right)\right)\Big/\left(c\,f\,\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)(-1+\mathrm{Sin}[e+f\,x])\,\sqrt{c-c\,\mathrm{Sin}[e+f\,x]}\right)$$

Problem 158: Result more than twice size of optimal antiderivative.

$$\int\frac{(a+a\,\mathrm{Sin}[e+f\,x])^{5/2}\,(A+B\,\mathrm{Sin}[e+f\,x])}{(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}}\,dx$$

Optimal (type 3, 146 leaves, 3 steps):

$$\frac{(A+B)\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^{5/2}}{10\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}}+\frac{(A-4\,B)\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^{5/2}}{40\,c\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{9/2}}+\frac{(A-4\,B)\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^{5/2}}{240\,c^2\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{7/2}}$$

Result (type 3, 348 leaves):

$$\left(4\,(A+B)\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)(a\,(1+\mathrm{Sin}[e+f\,x]))^{5/2}\right)\Big/\left(5\,f\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}\right)+$$

$$\left((-A-2\,B)\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3(a\,(1+\mathrm{Sin}[e+f\,x]))^{5/2}\right)\Big/\left(f\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}\right)+$$

$$\left((A+5\,B)\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5(a\,(1+\mathrm{Sin}[e+f\,x]))^{5/2}\right)\Big/\left(3\,f\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}\right)-$$

$$\frac{B\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7(a\,(1+\mathrm{Sin}[e+f\,x]))^{5/2}}{2\,f\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}}$$

Problem 160: Result more than twice size of optimal antiderivative.

$$\int (a + a \operatorname{Sin}[e + f x])^{7/2} (A + B \operatorname{Sin}[e + f x]) (c - c \operatorname{Sin}[e + f x])^{9/2} \, dx$$

Optimal (type 3, 250 leaves, 5 steps):

$$-\frac{a^4 (9 A - B) \operatorname{Cos}[e + f x] (c - c \operatorname{Sin}[e + f x])^{9/2}}{315 f \sqrt{a + a \operatorname{Sin}[e + f x]}} - \frac{a^3 (9 A - B) \operatorname{Cos}[e + f x] \sqrt{a + a \operatorname{Sin}[e + f x]} (c - c \operatorname{Sin}[e + f x])^{9/2}}{126 f} - \frac{a^2 (9 A - B) \operatorname{Cos}[e + f x] (a + a \operatorname{Sin}[e + f x])^{3/2} (c - c \operatorname{Sin}[e + f x])^{9/2}}{84 f} - \frac{a (9 A - B) \operatorname{Cos}[e + f x] (a + a \operatorname{Sin}[e + f x])^{5/2} (c - c \operatorname{Sin}[e + f x])^{9/2}}{72 f} - \frac{B \operatorname{Cos}[e + f x] (a + a \operatorname{Sin}[e + f x])^{7/2} (c - c \operatorname{Sin}[e + f x])^{9/2}}{9 f}$$

Result (type 3, 870 leaves):

$$\left(7\,(A-B)\,\text{Cos}[2\,(e+f\,x)]\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\right)\Big/\left(128\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)+$$
$$\left(7\,(A-B)\,\text{Cos}[4\,(e+f\,x)]\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\right)\Big/\left(256\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)+$$
$$\left((A-B)\,\text{Cos}[6\,(e+f\,x)]\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\right)\Big/\left(128\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)+$$
$$\left((A-B)\,\text{Cos}[8\,(e+f\,x)]\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\right)\Big/\left(1024\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)+$$
$$\left(7\,(10\,A-B)\,\text{Sin}[e+f\,x]\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\right)\Big/\left(128\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)+$$
$$\left(7\,A\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\,\text{Sin}[3\,(e+f\,x)]\right)\Big/\left(64\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)+$$
$$\left((7\,A+2\,B)\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\,\text{Sin}[5\,(e+f\,x)]\right)\Big/\left(320\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)+$$
$$\left((4\,A+5\,B)\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\,\text{Sin}[7\,(e+f\,x)]\right)\Big/\left(1792\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)+$$
$$\left(B\,(a\,(1+\text{Sin}[e+f\,x]))^{7/2}\,(c-c\,\text{Sin}[e+f\,x])^{9/2}\,\text{Sin}[9\,(e+f\,x)]\right)\Big/\left(2304\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^9\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^7\right)$$

Problem 170: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f\,x])^{7/2}\,(A+B\,\text{Sin}[e+f\,x])}{(c-c\,\text{Sin}[e+f\,x])^{11/2}}\,dx$$

Optimal (type 3, 96 leaves, 2 steps):

$$\frac{(A+B)\,\text{Cos}[e+f\,x]\,(a+a\,\text{Sin}[e+f\,x])^{7/2}}{10\,f\,(c-c\,\text{Sin}[e+f\,x])^{11/2}}+\frac{(A-9\,B)\,\text{Cos}[e+f\,x]\,(a+a\,\text{Sin}[e+f\,x])^{7/2}}{80\,c\,f\,(c-c\,\text{Sin}[e+f\,x])^{9/2}}$$

Result (type 3, 434 leaves):

$$\left(8\,(A+B)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\left(a\,(1+\mathrm{Sin}[e+f\,x])\right)^{7/2}\right)\Big/$$
$$\left(5\,f\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}\right)+$$
$$\left((-3\,A-5\,B)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^3\left(a\,(1+\mathrm{Sin}[e+f\,x])\right)^{7/2}\right)\Big/$$
$$\left(f\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}\right)+$$
$$\left(2\,(A+3\,B)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^5\left(a\,(1+\mathrm{Sin}[e+f\,x])\right)^{7/2}\right)\Big/$$
$$\left(f\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}\right)+$$
$$\left((-A-7\,B)\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7\left(a\,(1+\mathrm{Sin}[e+f\,x])\right)^{7/2}\right)\Big/$$
$$\left(2\,f\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}\right)+$$
$$\frac{B\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^9\left(a\,(1+\mathrm{Sin}[e+f\,x])\right)^{7/2}}{f\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^7(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}}$$

Problem 171: Result more than twice size of optimal antiderivative.

$$\int\frac{(a+a\,\mathrm{Sin}[e+f\,x])^{7/2}\,(A+B\,\mathrm{Sin}[e+f\,x])}{(c-c\,\mathrm{Sin}[e+f\,x])^{13/2}}\,dx$$

Optimal (type 3, 146 leaves, 3 steps):

$$\frac{(A+B)\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^{7/2}}{12\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{13/2}}+$$
$$\frac{(A-5\,B)\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^{7/2}}{60\,c\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{11/2}}+\frac{(A-5\,B)\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^{7/2}}{480\,c^2\,f\,(c-c\,\mathrm{Sin}[e+f\,x])^{9/2}}$$

Result (type 3, 442 leaves):

$$\left(4\ (A+B)\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)\ \left(a\ (1+\text{Sin}[e+f\,x])\right)^{7/2}\right)\Big/$$
$$\left(3\,f\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^7\ (c-c\,\text{Sin}[e+f\,x])^{13/2}\right)-$$
$$\left(4\ (3\,A+5\,B)\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^3\ \left(a\ (1+\text{Sin}[e+f\,x])\right)^{7/2}\right)\Big/$$
$$\left(5\,f\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^7\ (c-c\,\text{Sin}[e+f\,x])^{13/2}\right)+$$
$$\left(3\ (A+3\,B)\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^5\ \left(a\ (1+\text{Sin}[e+f\,x])\right)^{7/2}\right)\Big/$$
$$\left(2\,f\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^7\ (c-c\,\text{Sin}[e+f\,x])^{13/2}\right)+$$
$$\left((-A-7\,B)\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^7\ \left(a\ (1+\text{Sin}[e+f\,x])\right)^{7/2}\right)\Big/$$
$$\left(3\,f\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^7\ (c-c\,\text{Sin}[e+f\,x])^{13/2}\right)+$$
$$\frac{B\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]-\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^9\ \left(a\ (1+\text{Sin}[e+f\,x])\right)^{7/2}}{2\,f\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\ (e+f\,x)\right]\right)^7\ (c-c\,\text{Sin}[e+f\,x])^{13/2}}$$

Problem 172: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f\,x])^{7/2}\ (A+B\,\text{Sin}[e+f\,x])}{(c-c\,\text{Sin}[e+f\,x])^{15/2}}\,dx$$

Optimal (type 3, 202 leaves, 4 steps):

$$\frac{(A+B)\ \text{Cos}[e+f\,x]\ (a+a\,\text{Sin}[e+f\,x])^{7/2}}{14\,f\ (c-c\,\text{Sin}[e+f\,x])^{15/2}}+\frac{(3\,A-11\,B)\ \text{Cos}[e+f\,x]\ (a+a\,\text{Sin}[e+f\,x])^{7/2}}{168\,c\,f\ (c-c\,\text{Sin}[e+f\,x])^{13/2}}+$$
$$\frac{(3\,A-11\,B)\ \text{Cos}[e+f\,x]\ (a+a\,\text{Sin}[e+f\,x])^{7/2}}{840\,c^2\,f\ (c-c\,\text{Sin}[e+f\,x])^{11/2}}+\frac{(3\,A-11\,B)\ \text{Cos}[e+f\,x]\ (a+a\,\text{Sin}[e+f\,x])^{7/2}}{6720\,c^3\,f\ (c-c\,\text{Sin}[e+f\,x])^{9/2}}$$

Result (type 3, 442 leaves):

$$\left(8\,(A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)(a\,(1+\text{Sin}[e+f x]))^{7/2}\right)\Big/$$
$$\left(7 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7(c-c\,\text{Sin}[e+f x])^{15/2}\right)-$$
$$\left(2\,(3 A+5 B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3(a\,(1+\text{Sin}[e+f x]))^{7/2}\right)\Big/$$
$$\left(3 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7(c-c\,\text{Sin}[e+f x])^{15/2}\right)+$$
$$\left(6\,(A+3 B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5(a\,(1+\text{Sin}[e+f x]))^{7/2}\right)\Big/$$
$$\left(5 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7(c-c\,\text{Sin}[e+f x])^{15/2}\right)+$$
$$\left((-A-7 B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7(a\,(1+\text{Sin}[e+f x]))^{7/2}\right)\Big/$$
$$\left(4 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7(c-c\,\text{Sin}[e+f x])^{15/2}\right)+$$
$$\frac{B\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^9(a\,(1+\text{Sin}[e+f x]))^{7/2}}{3 f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^7(c-c\,\text{Sin}[e+f x])^{15/2}}$$

Problem 176: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(A+B\,\text{Sin}[e+f x])\sqrt{c-c\,\text{Sin}[e+f x]}}{\sqrt{a+a\,\text{Sin}[e+f x]}}\,dx$$

Optimal (type 3, 96 leaves, 5 steps):

$$\frac{(A-B)\,c\,\text{Cos}[e+f x]\,\text{Log}[1+\text{Sin}[e+f x]]}{f\sqrt{a+a\,\text{Sin}[e+f x]}\sqrt{c-c\,\text{Sin}[e+f x]}}-\frac{B\,\text{Cos}[e+f x]\sqrt{c-c\,\text{Sin}[e+f x]}}{f\sqrt{a+a\,\text{Sin}[e+f x]}}$$

Result (type 3, 136 leaves):

$$\left(\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\right.$$
$$\left(-2\,i\,(A-B)\,\text{ArcTan}\left[e^{i(e+f x)}\right]+(A-B)\left(-i f x+\text{Log}\left[1+e^{2 i(e+f x)}\right]\right)+B\,\text{Sin}[e+f x]\right)$$
$$\left.\sqrt{c-c\,\text{Sin}[e+f x]}\right)\Big/\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\sqrt{a\,(1+\text{Sin}[e+f x])}\right)$$

Problem 183: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(A+B\,\text{Sin}[e+f x])\sqrt{c-c\,\text{Sin}[e+f x]}}{(a+a\,\text{Sin}[e+f x])^{3/2}}\,dx$$

Optimal (type 3, 100 leaves, 5 steps):

$$-\frac{(A-B)\,c\,\text{Cos}[e+f x]}{f\,(a+a\,\text{Sin}[e+f x])^{3/2}\sqrt{c-c\,\text{Sin}[e+f x]}}+\frac{B\,c\,\text{Cos}[e+f x]\,\text{Log}[1+\text{Sin}[e+f x]]}{a f\sqrt{a+a\,\text{Sin}[e+f x]}\sqrt{c-c\,\text{Sin}[e+f x]}}$$

Result (type 3, 161 leaves):

$$\left(\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)\sqrt{c-c\,\text{Sin}[e+fx]}\left(-A+B-iBfx+B\,\text{Log}\left[1+e^{2i(e+fx)}\right]+B\left(-ifx+\text{Log}\left[1+e^{2i(e+fx)}\right]\right)\text{Sin}[e+fx]-2iB\,\text{ArcTan}\left[e^{i(e+fx)}\right](1+\text{Sin}[e+fx])\right)\right)\Big/\left(f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)(a(1+\text{Sin}[e+fx]))^{3/2}\right)$$

Problem 195: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int(a+a\,\text{Sin}[e+fx])^m(A+B\,\text{Sin}[e+fx])(c-c\,\text{Sin}[e+fx])^n\,dx$$

Optimal (type 5, 174 leaves, 5 steps):

$$\left(2^{\frac{1}{2}+n}c(B(m-n)+A(1+m+n))\text{Cos}[e+fx]\,\text{Hypergeometric2F1}\left[\frac{1}{2}(1+2m),\frac{1}{2}(1-2n),\frac{1}{2}(3+2m),\frac{1}{2}(1+\text{Sin}[e+fx])\right](1-\text{Sin}[e+fx])^{\frac{1}{2}-n}(a+a\,\text{Sin}[e+fx])^m(c-c\,\text{Sin}[e+fx])^{-1+n}\right)\Big/(f(1+2m)(1+m+n))-\frac{B\,\text{Cos}[e+fx](a+a\,\text{Sin}[e+fx])^m(c-c\,\text{Sin}[e+fx])^n}{f(1+m+n)}$$

Result (type 6, 15 882 leaves):

$$-\Bigg(\Bigg(\Bigg(4^{1+n}(3+2n)\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{-2m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{-2n}(a+a\,\text{Sin}[e+fx])^m(c-c\,\text{Sin}[e+fx])^n\left(A\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{2m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{2n}+B\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{2m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{2n}\text{Sin}[e+fx]\right)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{2n}\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{2m}$$

$$\Bigg(-\Bigg(\Bigg(A\,\text{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\Bigg)\Bigg/$$

$$\Bigg(-(3+2n)\,\text{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\Bigg(2m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2m,1+2(m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+(1+2m+2n)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\,-2m,\,2\left(1+m+n\right),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)-$$
$$\Bigg(B\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2m,\,1+2\,(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\Bigg)\Bigg/\Bigg(-\left(3+2n\right)\text{AppellF1}\left[\frac{1}{2}+n,\right.$$
$$\left.-2m,\,1+2\,(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$
$$2\Bigg(2m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2m,\,1+2\,(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(1+2m+2n\right)\text{AppellF1}\left[\frac{3}{2}+n,\,-2m,\,2\left(1+m+n\right),\,\frac{5}{2}+\right.$$
$$\left.n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)+$$
$$\Bigg(8B\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2m,\,3+2\,(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\Bigg/\Bigg(\left(3+2n\right)\text{AppellF1}\left[\frac{1}{2}+n,\,-2m,\right.$$
$$\left.3+2\,(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-$$
$$2\Bigg(2m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2m,\,3+2\,(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(3+2m+2n\right)\text{AppellF1}\left[\frac{3}{2}+n,\,-2m,\,2\left(2+m+n\right),\,\frac{5}{2}+\right.$$
$$\left.n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)+$$
$$\Bigg(8B\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2m,\,2\left(1+m+n\right),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Bigg)\Bigg/$$
$$\Bigg(-\left(3+2n\right)\text{AppellF1}\left[\frac{1}{2}+n,\,-2m,\,2\left(1+m+n\right),\,\frac{3}{2}+n,\right.$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$
$$4\Bigg(m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2m,\,2\left(1+m+n\right),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(1+m+n\right)\text{AppellF1}\left[\frac{3}{2}+n,\,-2m,\,3+2\,(m+n),\,\frac{5}{2}+n,\right.$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)\Bigg/$$
$$\Bigg(f\left(1+2n\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^3\Bigg(-\frac{1}{\left(1+2n\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^4}$$

$$3\times 2^{1+2n}\,(3+2n)\,\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\left(\frac{\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]}{1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2n}\left(\frac{1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2m}$$

$$\Bigg(-\Bigg(\Bigg(A\,\mathrm{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\Bigg)\Big/$$

$$\left(-(3+2n)\,\mathrm{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2m\,\mathrm{AppellF1}\left[\frac{3}{2}+n,1-2m,1+2(m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(1+2m+2n)$$

$$\mathrm{AppellF1}\left[\frac{3}{2}+n,-2m,2(1+m+n),\frac{5}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Bigg)-$$

$$\Bigg(B\,\mathrm{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\Bigg)\Big/$$

$$\left(-(3+2n)\,\mathrm{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2m\,\mathrm{AppellF1}\left[\frac{3}{2}+n,1-2m,1+2(m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(1+2m+2n)$$

$$\mathrm{AppellF1}\left[\frac{3}{2}+n,-2m,2(1+m+n),\frac{5}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+\Bigg(8B\,\mathrm{AppellF1}\left[\frac{1}{2}+n,\right.$$

$$\left.-2m,3+2(m+n),\frac{3}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\Big/$$

$$\left((3+2n)\,\mathrm{AppellF1}\left[\frac{1}{2}+n,-2m,3+2(m+n),\frac{3}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-2\left(2m\,\mathrm{AppellF1}\left[\frac{3}{2}+n,1-2m,3+2(m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(3+2m+2n)$$

$$\mathrm{AppellF1}\left[\frac{3}{2}+n,-2m,2(2+m+n),\frac{5}{2}+n,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+$$

$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,2\,(1+m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\Big/$$

$$\left(-(3+2\,n)\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,2\,(1+m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+4\left(m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,2\,(1+m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(1+m+n)\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\,3+2\,(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)+$$

$$\frac{1}{(1+2\,n)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^3}\,4^n\,(3+2\,n)\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{2\,n}\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{2\,m}$$

$$\left(-\left(\left(A\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,1+2\,(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2\right)\Big/\right.\right.$$

$$\left(-(3+2\,n)\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,1+2\,(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,1+2\,(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(1+2\,m+2\,n)\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\,2\,(1+m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)-$$

$$\left(B\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,1+2\,(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2\right)\Big/$$

$$\left(-(3+2\,n)\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,1+2\,(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,1+2\,(m+n),\right.\right.$$

$$\frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\left(1+2\,m+2\,n\right)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\ -2\,m,\ 2\left(1+m+n\right),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\Bigg)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)+$$

$$\Bigg(8\,B\,\text{AppellF1}\left[\frac{1}{2}+n,\ -2\,m,\ 3+2\,(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\Bigg)\Big/$$

$$\Bigg(\left(3+2\,n\right)\ \text{AppellF1}\left[\frac{1}{2}+n,\ -2\,m,\ 3+2\,(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]-2\,\Bigg(2\,m\,\text{AppellF1}\Big[\frac{3}{2}+n,\ 1-2\,m,\ 3+2\,(m+n),$$

$$\frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\left(3+2\,m+2\,n\right)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\ -2\,m,\ 2\left(2+m+n\right),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\Bigg)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)+$$

$$\Bigg(8\,B\,\text{AppellF1}\left[\frac{1}{2}+n,\ -2\,m,\ 2\left(1+m+n\right),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\ \left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)\Big/$$

$$\Bigg(-\left(3+2\,n\right)\ \text{AppellF1}\left[\frac{1}{2}+n,\ -2\,m,\ 2\left(1+m+n\right),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+4\,\Bigg(m\,\text{AppellF1}\Big[\frac{3}{2}+n,\ 1-2\,m,\ 2\left(1+m+n\right),$$

$$\frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$\left(1+m+n\right)\ \text{AppellF1}\left[\frac{3}{2}+n,\ -2\,m,\ 3+2\,(m+n),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\Bigg)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)\Bigg)+$$

$$\frac{1}{\left(1+2\,n\right)\ \left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^3}\,2^{3+2\,n}\,n\,\left(3+2\,n\right)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{-1+2\,n}$$

$$\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{2\,m}$$

$$\left(-\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{2\,\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2}+\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{4\,\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)}\right)$$

$$\left(-\left(\left(\text{A AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 1+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\Bigg)\Big/$$

$$\left(-(3+2n)\ \text{AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 1+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,\ 1-2m,\ 1+2(m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(1+2m+2n)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\ -2m,\ 2(1+m+n),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Bigg)-$$

$$\left(\text{B AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 1+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\Bigg)\Big/$$

$$\left(-(3+2n)\ \text{AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 1+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,\ 1-2m,\ 1+2(m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(1+2m+2n)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\ -2m,\ 2(1+m+n),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)+$$

$$\left(8\,\text{B AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 3+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\Big/$$

$$\left((3+2n)\ \text{AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 3+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,\ 1-2m,\ 3+2(m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(3+2m+2n)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\ -2m,\ 2(2+m+n),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)+$$

$$\left(8\,\text{B AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 2(1+m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Bigg)\Big/$$

$$\left(-(3+2n)\,\text{AppellF1}\left[\frac{1}{2}+n,-2m,2(1+m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+4\left(m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2m,2(1+m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+(1+m+n)\,\text{AppellF1}\left[\frac{3}{2}+n,-2m,3+2(m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)+$$

$$\frac{1}{(1+2n)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^3}2^{3+2n}m(3+2n)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]$$

$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{2n}$$

$$\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{-1+2m}$$

$$\left(-\left(\left(\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\Big/\left(2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\right)\right)-\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)}\right)$$

$$\left(-\left(\left(A\,\text{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\right)\Big/\right.\right.$$

$$\left(-(3+2n)\,\text{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2m,1+2(m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+(1+2m+2n)\,\text{AppellF1}\left[\frac{3}{2}+n,-2m,2(1+m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)-$$

$$\left(B\,\text{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\right)\Big/$$

$$\left(-(3+2n)\,\text{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2 m,1+2 (m+n),\right.\right.$$
$$\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(1+2 m+2 n)$$
$$\text{AppellF1}\left[\frac{3}{2}+n,-2 m,2 (1+m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+$$
$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}+n,-2 m,3+2 (m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$
$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\Big/$$
$$\left((3+2 n)\,\text{AppellF1}\left[\frac{1}{2}+n,-2 m,3+2 (m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2 m,3+2 (m+n),\right.\right.$$
$$\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(3+2 m+2 n)$$
$$\text{AppellF1}\left[\frac{3}{2}+n,-2 m,2 (2+m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+$$
$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}+n,-2 m,2 (1+m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big/$$
$$\left(-(3+2 n)\,\text{AppellF1}\left[\frac{1}{2}+n,-2 m,2 (1+m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+4\left(m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2 m,2 (1+m+n),\right.\right.$$
$$\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$
$$(1+m+n)\,\text{AppellF1}\left[\frac{3}{2}+n,-2 m,3+2 (m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)+$$
$$\frac{1}{(1+2 n)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^3}4^{1+n}(3+2 n)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]$$
$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2 n}$$
$$\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2 m}$$

$$\left(-\left(\left(\text{A AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 1+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\ \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2$$

$$\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\ \left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\right/$$

$$\left(-(3+2n)\ \text{AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 1+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\left(2m\ \text{AppellF1}\left[\frac{3}{2}+n,\ 1-2m,\ 1+2(m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+(1+2m+2n)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\ -2m,\ 2(1+m+n),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$

$$\left.\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)-$$

$$\left(\text{B AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 1+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\ \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\ \left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\Big/$$

$$\left(-(3+2n)\ \text{AppellF1}\left[\frac{1}{2}+n,\ -2m,\ 1+2(m+n),\ \frac{3}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\left(2m\ \text{AppellF1}\left[\frac{3}{2}+n,\ 1-2m,\ 1+2(m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+(1+2m+2n)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\ -2m,\ 2(1+m+n),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)-$$

$$\left(A\left(-\frac{1}{\frac{3}{2}+n}m\left(\frac{1}{2}+n\right)\ \text{AppellF1}\left[\frac{3}{2}+n,\ 1-2m,\ 1+2(m+n),\ \frac{5}{2}+n,\right.\right.\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\ \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]-\frac{1}{2\left(\frac{3}{2}+n\right)}\left(\frac{1}{2}+n\right)\ (1+2(m+n))\ \text{AppellF1}\left[\frac{3}{2}+n,\right.$$

$$\left.-2m,\ 2+2(m+n),\ \frac{5}{2}+n,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)\ \left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\Big/$$

$$\left(-(3+2n)\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2m,\,1+2(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2m,\,1+2(m+n),\right.\right.$$
$$\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]+(1+2m+2n)$$
$$\text{AppellF1}\left[\frac{3}{2}+n,\,-2m,\,2(1+m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$
$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)-$$
$$\left(B\left(-\frac{1}{\frac{3}{2}+n}m\left(\frac{1}{2}+n\right)\text{AppellF1}\left[\frac{3}{2}+n,\,1-2m,\,1+2(m+n),\,\frac{5}{2}+n,\right.\right.\right.$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]-\frac{1}{2\left(\frac{3}{2}+n\right)}\left(\frac{1}{2}+n\right)(1+2(m+n))\,\text{AppellF1}\left[\frac{3}{2}+n,\right.$$
$$-2m,\,2+2(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]$$
$$\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\right)\Big/$$
$$\left(-(3+2n)\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2m,\,1+2(m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2m,\,1+2(m+n),\right.\right.$$
$$\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]+(1+2m+2n)$$
$$\text{AppellF1}\left[\frac{3}{2}+n,\,-2m,\,2(1+m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$
$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)+$$
$$\left(8B\left(-\frac{1}{\frac{3}{2}+n}m\left(\frac{1}{2}+n\right)\text{AppellF1}\left[\frac{3}{2}+n,\,1-2m,\,3+2(m+n),\,\frac{5}{2}+n,\right.\right.\right.$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]-\frac{1}{2\left(\frac{3}{2}+n\right)}\left(\frac{1}{2}+n\right)(3+2(m+n))$$
$$\text{AppellF1}\left[\frac{3}{2}+n,\,-2m,\,4+2(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$
$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)\right)\Big/$$

$$\left(\left(3+2\,n\right)\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,3+2\,\left(m+n\right),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]-2\,\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,3+2\,\left(m+n\right),\right.\right.$$

$$\left.\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\left(3+2\,m+2\,n\right)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\,2\,\left(2+m+n\right),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)+$$

$$\left(4\,B\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,2\,\left(1+m+n\right),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\,\text{Sec}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\Big/$$

$$\left(-\left(3+2\,n\right)\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,2\,\left(1+m+n\right),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+4\,\left(m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,2\,\left(1+m+n\right),\right.\right.$$

$$\left.\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$

$$\left(1+m+n\right)\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\,3+2\,\left(m+n\right),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)+$$

$$\left(8\,B\,\left(-\frac{1}{\frac{3}{2}+n}m\,\left(\frac{1}{2}+n\right)\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,2\,\left(1+m+n\right),\,\frac{5}{2}+n,\right.\right.\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\,\text{Sec}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{\frac{3}{2}+n}\left(\frac{1}{2}+n\right)\,\left(1+m+n\right)\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\right.$$

$$\left.1+2\,\left(1+m+n\right),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\left.\left.\text{Sec}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\,\left(1+\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\Big/$$

$$\left(-\left(3+2\,n\right)\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,2\,\left(1+m+n\right),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+4\,\left(m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,2\,\left(1+m+n\right),\right.\right.$$

$$\left.\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$

$$\left(1+m+n\right)\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\,3+2\,\left(m+n\right),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\,\text{Tan}\left[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)-$$

$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}+n,\,-2\,m,\,2\,(1+m+n),\,\frac{3}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)$$
$$\left(2\left(m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,2\,(1+m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(1+m+n)\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\right.$$
$$\left.\left.3+2\,(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-(3+2\,n)\left(-\frac{1}{\frac{3}{2}+n}m\left(\frac{1}{2}+n\right)\right.$$
$$\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,2\,(1+m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-$$
$$\frac{1}{\frac{3}{2}+n}\left(\frac{1}{2}+n\right)(1+m+n)\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\,1+2\,(1+m+n),\right.$$
$$\left.\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$
$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)+4\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$
$$\left(m\left(-\frac{1}{\frac{5}{2}+n}\left(\frac{3}{2}+n\right)(1+m+n)\,\text{AppellF1}\left[\frac{5}{2}+n,\,1-2\,m,\,1+2\,(1+m+n),\right.\right.\right.$$
$$\left.\frac{7}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+\frac{1}{2\left(\frac{5}{2}+n\right)}$$
$$(1-2\,m)\left(\frac{3}{2}+n\right)\text{AppellF1}\left[\frac{5}{2}+n,\,2-2\,m,\,2\,(1+m+n),\,\frac{7}{2}+n,\right.$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$
$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)+$$
$$(1+m+n)\left(-\frac{1}{\frac{5}{2}+n}m\left(\frac{3}{2}+n\right)\text{AppellF1}\left[\frac{5}{2}+n,\,1-2\,m,\,3+2\,(m+n),\right.\right.$$
$$\left.\frac{7}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2\left(\frac{5}{2}+n\right)}$$

$$\left(\frac{3}{2}+n\right)\left(3+2(m+n)\right)\text{AppellF1}\left[\frac{5}{2}+n,-2m,4+2(m+n),\right.$$

$$\left.\frac{7}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\left.\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\right)\right)\Big/$$

$$\left(-\left(3+2n\right)\text{AppellF1}\left[\frac{1}{2}+n,-2m,2\left(1+m+n\right),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+4\left(m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2m,2\left(1+m+n\right),\right.\right.$$

$$\left.\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(1+m+n\right)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,-2m,3+2(m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2+$$

$$\left(A\,\text{AppellF1}\left[\frac{1}{2}+n,-2m,1+2(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2$$

$$\left(\left(2m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2m,1+2(m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(1+2m+2n\right)\text{AppellF1}\left[\frac{3}{2}+n,-2m,\right.$$

$$\left.\left.2\left(1+m+n\right),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\left(3+2n\right)\left(-\frac{1}{\frac{3}{2}+n}m\left(\frac{1}{2}+n\right)\right.$$

$$\text{AppellF1}\left[\frac{3}{2}+n,1-2m,1+2(m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2\left(\frac{3}{2}+n\right)}\left(\frac{1}{2}+n\right)\left(1+2(m+n)\right)\text{AppellF1}\left[\frac{3}{2}+n,-2m,2+2(m+n),\right.$$

$$\left.\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)+2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\left(2\,m\left(-\frac{1}{2\left(\frac{5}{2}+n\right)}\left(\frac{3}{2}+n\right)\,(1+2\,(m+n))\,\text{AppellF1}\left[\frac{5}{2}+n,1-2\,m,2+2\,(m+n),\frac{7}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right.\right.$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+\frac{1}{2\left(\frac{5}{2}+n\right)}$$

$$(1-2\,m)\left(\frac{3}{2}+n\right)\text{AppellF1}\left[\frac{5}{2}+n,2-2\,m,1+2\,(m+n),\frac{7}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)+$$

$$(1+2\,m+2\,n)\left(-\frac{1}{\frac{5}{2}+n}m\left(\frac{3}{2}+n\right)\text{AppellF1}\left[\frac{5}{2}+n,1-2\,m,2\,(1+m+n),\frac{7}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right.$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{\frac{5}{2}+n}$$

$$\left(\frac{3}{2}+n\right)(1+m+n)\,\text{AppellF1}\left[\frac{5}{2}+n,-2\,m,1+2\,(1+m+n),\frac{7}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\left.\left.\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\right)\right)\right)\Big/$$

$$\left(-(3+2\,n)\,\text{AppellF1}\left[\frac{1}{2}+n,-2\,m,1+2\,(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,1-2\,m,1+2\,(m+n),\right.\right.\right.$$

$$\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(1+2\,m+2\,n)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,-2\,m,2\,(1+m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2+$$

$$\left(B\,\text{AppellF1}\left[\frac{1}{2}+n,-2\,m,1+2\,(m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2$$

$$\left(\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,1+2\,(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+(1+2\,m+2\,n)\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\right.$$

$$\left.\left.2\,(1+m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-(3+2\,n)\left(-\frac{1}{\frac{3}{2}+n}m\left(\frac{1}{2}+n\right)\right.$$

$$\text{AppellF1}\left[\frac{3}{2}+n,\,1-2\,m,\,1+2\,(m+n),\,\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-$$

$$\frac{1}{2\left(\frac{3}{2}+n\right)}\left(\frac{1}{2}+n\right)\,(1+2\,(m+n))\,\text{AppellF1}\left[\frac{3}{2}+n,\,-2\,m,\,2+2\,(m+n),\right.$$

$$\left.\frac{5}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)+2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\left(2\,m\left(-\frac{1}{2\left(\frac{5}{2}+n\right)}\left(\frac{3}{2}+n\right)\,(1+2\,(m+n))\,\text{AppellF1}\left[\frac{5}{2}+n,\,1-2\,m,\,2+\right.\right.\right.$$

$$\left.2\,(m+n),\,\frac{7}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+\frac{1}{2\left(\frac{5}{2}+n\right)}$$

$$(1-2\,m)\left(\frac{3}{2}+n\right)\text{AppellF1}\left[\frac{5}{2}+n,\,2-2\,m,\,1+2\,(m+n),\,\frac{7}{2}+n,\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)+$$

$$(1+2\,m+2\,n)\left(-\frac{1}{\frac{5}{2}+n}m\left(\frac{3}{2}+n\right)\text{AppellF1}\left[\frac{5}{2}+n,\,1-2\,m,\,2\,(1+m+n),\right.\right.$$

$$\left.\frac{7}{2}+n,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{\frac{5}{2}+n}$$

$$\left(\frac{3}{2}+n\right)\,(1+m+n)\,\text{AppellF1}\left[\frac{5}{2}+n,\,-2\,m,\,1+2\,(1+m+n),\right.$$

$$\frac{7}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg(-\left(3+2 n\right) \mathrm{AppellF1}\left[\frac{1}{2}+n,\ -2 m,\ 1+2 (m+n),\ \frac{3}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\Bigg(2 m\, \mathrm{AppellF1}\left[\frac{3}{2}+n,\ 1-2 m,\ 1+2 (m+n),\right.$$

$$\left.\frac{5}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(1+2 m+2 n\right)$$

$$\mathrm{AppellF1}\left[\frac{3}{2}+n,\ -2 m,\ 2\left(1+m+n\right),\ \frac{5}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg) \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)^2-$$

$$\Bigg(8 B\, \mathrm{AppellF1}\left[\frac{1}{2}+n,\ -2 m,\ 3+2 (m+n),\ \frac{3}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\Bigg(-\Bigg(2 m\, \mathrm{AppellF1}\left[\frac{3}{2}+n,\ 1-2 m,\ 3+2 (m+n),\ \frac{5}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(3+2 m+2 n\right) \mathrm{AppellF1}\left[\frac{3}{2}+n,\ -2 m,\right.$$

$$\left.2\left(2+m+n\right),\ \frac{5}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\left(3+2 n\right)\Bigg(-\frac{1}{\frac{3}{2}+n} m\left(\frac{1}{2}+n\right)$$

$$\mathrm{AppellF1}\left[\frac{3}{2}+n,\ 1-2 m,\ 3+2 (m+n),\ \frac{5}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2\left(\frac{3}{2}+n\right)}\left(\frac{1}{2}+n\right)\left(3+2 (m+n)\right) \mathrm{AppellF1}\left[\frac{3}{2}+n,\ -2 m,\ 4+2 (m+n),\right.$$

$$\left.\frac{5}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)-2\, \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\Bigg(2 m\Bigg(-\frac{1}{2\left(\frac{5}{2}+n\right)}\left(\frac{3}{2}+n\right)\left(3+2 (m+n)\right) \mathrm{AppellF1}\left[\frac{5}{2}+n,\ 1-2 m,\ 4+\right.$$

$$\left.2 (m+n),\ \frac{7}{2}+n,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\frac{1}{2\left(\frac{5}{2}+n\right)}$$

$$(1-2 m)\left(\frac{3}{2}+n\right) \text{AppellF1}\left[\frac{5}{2}+n,2-2 m,3+2 (m+n),\frac{7}{2}+n,\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)+$$

$$(3+2 m+2 n)\left(-\frac{1}{\frac{5}{2}+n} m\left(\frac{3}{2}+n\right) \text{AppellF1}\left[\frac{5}{2}+n,1-2 m,2 (2+m+n),\right.\right.$$

$$\left.\frac{7}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{\frac{5}{2}+n}$$

$$\left(\frac{3}{2}+n\right)(2+m+n) \text{AppellF1}\left[\frac{5}{2}+n,-2 m,1+2 (2+m+n),\right.$$

$$\left.\frac{7}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\left.\left.\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\right)\right)\right)\Big/$$

$$\left(\left((3+2 n) \text{AppellF1}\left[\frac{1}{2}+n,-2 m,3+2 (m+n),\frac{3}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-2\left(2 m \text{AppellF1}\left[\frac{3}{2}+n,1-2 m,3+2 (m+n),\right.\right.$$

$$\left.\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(3+2 m+2 n)$$

$$\text{AppellF1}\left[\frac{3}{2}+n,-2 m,2 (2+m+n),\frac{5}{2}+n,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right) \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\right)\right)\right)$$

Problem 196: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int (a+a \text{Sin}[e+f x])^m (A+B \text{Sin}[e+f x]) (c-c \text{Sin}[e+f x])^3 \, dx$$

Optimal (type 5, 145 leaves, 5 steps):

$$\frac{1}{7 f (4+m)} 2^{\frac{1}{2}+m} a^4 c^3 (B (3-m) - A (4+m)) \text{Cos}[e+f x]^7 \text{Hypergeometric2F1}\left[\frac{7}{2}, \frac{1}{2}-m, \frac{9}{2}, \frac{1}{2} (1-\text{Sin}[e+f x])\right] (1+\text{Sin}[e+f x])^{\frac{1}{2}-m} (a+a \text{Sin}[e+f x])^{-4+m} - \frac{a^3 B c^3 \text{Cos}[e+f x]^7 (a+a \text{Sin}[e+f x])^{-3+m}}{f (4+m)}$$

Result (type 6, 31 879 leaves) : Display of huge result suppressed!

Problem 197: Attempted integration timed out after 120 seconds.

$$\int (a+a \text{Sin}[e+f x])^m (A+B \text{Sin}[e+f x]) (c-c \text{Sin}[e+f x])^2 \, dx$$

Optimal (type 5, 145 leaves, 5 steps) :

$$\frac{1}{5 f (3+m)} 2^{\frac{1}{2}+m} a^3 c^2 (B (2-m) - A (3+m)) \text{Cos}[e+f x]^5 \text{Hypergeometric2F1}\left[\frac{5}{2}, \frac{1}{2}-m, \frac{7}{2}, \frac{1}{2} (1-\text{Sin}[e+f x])\right] (1+\text{Sin}[e+f x])^{\frac{1}{2}-m} (a+a \text{Sin}[e+f x])^{-3+m} - \frac{a^2 B c^2 \text{Cos}[e+f x]^5 (a+a \text{Sin}[e+f x])^{-2+m}}{f (3+m)}$$

Result (type 1, 1 leaves) :

???

Problem 198: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int (a+a \text{Sin}[e+f x])^m (A+B \text{Sin}[e+f x]) (c-c \text{Sin}[e+f x]) \, dx$$

Optimal (type 5, 139 leaves, 5 steps) :

$$\frac{1}{3 f (2+m)} 2^{\frac{1}{2}+m} a^2 c (B (1-m) - A (2+m)) \text{Cos}[e+f x]^3 \text{Hypergeometric2F1}\left[\frac{3}{2}, \frac{1}{2}-m, \frac{5}{2}, \frac{1}{2} (1-\text{Sin}[e+f x])\right] (1+\text{Sin}[e+f x])^{\frac{1}{2}-m} (a+a \text{Sin}[e+f x])^{-2+m} - \frac{a B c \text{Cos}[e+f x]^3 (a+a \text{Sin}[e+f x])^{-1+m}}{f (2+m)}$$

Result (type 5, 460 leaves) :

$$\frac{1}{f\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]-\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^2}\,\mathrm{i}\,4^{-1-m}\,c\,e^{\mathrm{i} f m x}\left(1+\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right)^{-2m}\left(e^{-\frac{1}{4}\mathrm{i}(2e+\pi+2fx)}\left(\mathrm{i}+e^{\mathrm{i}(e+fx)}\right)\right)^{2m}$$

$$\left(-\frac{1}{2+m}\mathrm{i}\,B\,e^{-\mathrm{i}(2e+f(2+m)x)}\,\text{Hypergeometric2F1}\left[-2-m,-2m,-1-m,-\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right]+\right.$$
$$\frac{1}{1+m}2\left(-\mathrm{i}\,A+B\right)e^{-\mathrm{i}(e+f(1+m)x)}\,\text{Hypergeometric2F1}\left[-1-m,-2m,-m,-\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right]+$$
$$\frac{1}{-1+m}2\,\mathrm{i}\,A\,e^{\mathrm{i}(e-f(-1+m)x)}\,\text{Hypergeometric2F1}\left[1-m,-2m,2-m,-\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right]+$$
$$\frac{1}{-1+m}2\,B\,e^{\mathrm{i}(e-f(-1+m)x)}\,\text{Hypergeometric2F1}\left[1-m,-2m,2-m,-\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right]+$$
$$\frac{1}{-2+m}\mathrm{i}\,B\,e^{2\mathrm{i}e-\mathrm{i}f(-2+m)x}\,\text{Hypergeometric2F1}\left[2-m,-2m,3-m,-\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right]+$$
$$\left.\frac{4\,A\,e^{-\mathrm{i} f m x}\,\text{Hypergeometric2F1}\left[-2m,-m,1-m,-\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right]}{m}\right)$$
$$\left(-1+\text{Sin}[e+fx]\right)\left(a\left(1+\text{Sin}[e+fx]\right)\right)^m\,\text{Sin}\left[\frac{1}{4}(2e+\pi+2fx)\right]^{-2m}$$

Problem 199: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\left(a+a\,\text{Sin}[e+fx]\right)^m\left(A+B\,\text{Sin}[e+fx]\right)dx$$

Optimal (type 5, 117 leaves, 3 steps):

$$-\frac{B\,\text{Cos}[e+fx]\left(a+a\,\text{Sin}[e+fx]\right)^m}{f(1+m)}-\frac{1}{f(1+m)}2^{\frac{1}{2}+m}\left(A+A\,m+B\,m\right)\text{Cos}[e+fx]$$
$$\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{3}{2},\frac{1}{2}\left(1-\text{Sin}[e+fx]\right)\right]\left(1+\text{Sin}[e+fx]\right)^{-\frac{1}{2}-m}\left(a+a\,\text{Sin}[e+fx]\right)^m$$

Result (type 5, 295 leaves):

$$-\frac{1}{f}\left(a\left(1+\text{Sin}[e+fx]\right)\right)^m$$
$$\left(\frac{1}{-1+m^2}2^{-1-2m}\,B\,e^{-\mathrm{i}(e+fx)}\left(1+\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right)^{-2m}\left(e^{-\frac{1}{4}\mathrm{i}(2e+\pi+2fx)}\left(\mathrm{i}+e^{\mathrm{i}(e+fx)}\right)\right)^{2m}\right.$$
$$\left(e^{2\mathrm{i}(e+fx)}(-1+m)\,\text{Hypergeometric2F1}\left[-1-m,-2m,-m,-\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right]-\right.$$
$$\left.(1+m)\,\text{Hypergeometric2F1}\left[1-m,-2m,2-m,-\mathrm{i}\,e^{-\mathrm{i}(e+fx)}\right]\right)+$$
$$\left(2\sqrt{2}\,A\,\text{Cos}\left[\frac{1}{4}(2e-\pi+2fx)\right]^{1+2m}\,\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{1}{2}+m,\frac{3}{2}+m,\right.\right.$$
$$\left.\left.\text{Sin}\left[\frac{1}{4}(2e+\pi+2fx)\right]^2\right]\text{Sin}\left[\frac{1}{4}(2e-\pi+2fx)\right]\right)\Big/$$
$$\left.\left((1+2m)\sqrt{1-\text{Sin}[e+fx]}\right)\right)\text{Sin}\left[\frac{1}{4}(2e+\pi+2fx)\right]^{-2m}$$

Problem 200: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int \frac{(a + a \operatorname{Sin}[e + f x])^m (A + B \operatorname{Sin}[e + f x])}{c - c \operatorname{Sin}[e + f x]} \, dx$$

Optimal (type 5, 123 leaves, 5 steps):

$$\frac{1}{c f m} 2^{\frac{1}{2}+m} (B + A m + B m) \text{Hypergeometric2F1}\left[-\frac{1}{2}, \frac{1}{2} - m, \frac{1}{2}, \frac{1}{2} (1 - \operatorname{Sin}[e + f x])\right] \operatorname{Sec}[e + f x] (1 + \operatorname{Sin}[e + f x])^{\frac{1}{2}-m} (a + a \operatorname{Sin}[e + f x])^m - \frac{B \operatorname{Sec}[e + f x] (a + a \operatorname{Sin}[e + f x])^{1+m}}{a c f m}$$

Result (type 6, 8388 leaves):

$$-\left(\left(\left(\operatorname{Cos}\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^{-2m} \operatorname{Cot}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right] \left(\operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] - \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right]\right)^2\right.\right.\right.$$

$$(a + a \operatorname{Sin}[e + f x])^m \left(\frac{A \operatorname{Cos}\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^{2m}}{\left(\operatorname{Cos}\left[\frac{\pi}{4} + \frac{1}{2}\left(e - \frac{\pi}{2} + f x\right)\right] - \operatorname{Sin}\left[\frac{\pi}{4} + \frac{1}{2}\left(e - \frac{\pi}{2} + f x\right)\right]\right)^2} + \right.$$

$$\left.\frac{B \operatorname{Cos}\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^{2m} \operatorname{Sin}[e + f x]}{\left(\operatorname{Cos}\left[\frac{\pi}{4} + \frac{1}{2}\left(e - \frac{\pi}{2} + f x\right)\right] - \operatorname{Sin}\left[\frac{\pi}{4} + \frac{1}{2}\left(e - \frac{\pi}{2} + f x\right)\right]\right)^2}\right)$$

$$\left(\frac{1 - \operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2}{1 + \operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2}\right)^{2m} \left(-\left(\left((A + B) \operatorname{AppellF1}\left[-\frac{1}{2}, -2m, 2m, \frac{1}{2},\right.\right.\right.\right.$$

$$\left.\left.\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, -\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right]\right) \Big/$$

$$\left(\operatorname{AppellF1}\left[-\frac{1}{2}, -2m, 2m, \frac{1}{2}, \operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, -\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right] - \right.$$

$$4 m \left(\operatorname{AppellF1}\left[\frac{1}{2}, 1 - 2m, 2m, \frac{3}{2}, \operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2,\right.\right.$$

$$-\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right] + \operatorname{AppellF1}\left[\frac{1}{2}, -2m, 1 + 2m, \frac{3}{2},$$

$$\left.\left.\left.\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, -\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right]\right) \operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right)\right) +$$

$$\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2 \left(\left(3 (A + B) \operatorname{AppellF1}\left[\frac{1}{2}, -2m, 2m, \frac{3}{2},\right.\right.\right.$$

$$\left.\left.\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, -\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right]\right) \Big/$$

$$\left(3 \operatorname{AppellF1}\left[\frac{1}{2}, -2m, 2m, \frac{3}{2}, \operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, -\operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right] - \right.$$

$$4 m \left(\operatorname{AppellF1}\left[\frac{3}{2}, 1 - 2m, 2m, \frac{5}{2}, \operatorname{Tan}\left[\frac{1}{4}\left(-e + \frac{\pi}{2} - f x\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] + \text{AppellF1}\Big[\frac{3}{2}, -2 m, 1+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big) \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big) -$$

$$\Big(8 B\, \text{AppellF1}\Big[\frac{1}{2}, -2 m, 1+2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big) \Big/ \Big(\Big(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big) \Big(\text{AppellF1}\Big[\frac{1}{2}, -2 m, 1+2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] - \frac{2}{3}\Big(2 m\, \text{AppellF1}\Big[\frac{3}{2}, 1-2 m, 1+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] + (1+2 m)\, \text{AppellF1}\Big[\frac{3}{2}, -2 m, 2+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big) \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)\Big)\Big)\Big) \Big/$$

$$\Big(2 f\, (c - c\, \text{Sin}[e+f x]) \Big(-\frac{1}{8} \text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2 m}$$

$$\Big(-\Big(\Big((A+B)\, \text{AppellF1}\Big[-\frac{1}{2}, -2 m, 2 m, \frac{1}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big) \Big/ \Big(\text{AppellF1}\Big[-\frac{1}{2}, -2 m, 2 m, \frac{1}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] - 4 m \Big(\text{AppellF1}\Big[\frac{1}{2}, 1-2 m, 2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] + \text{AppellF1}\Big[\frac{1}{2}, -2 m, 1+2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big) \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big) +$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \Big(\Big(3\, (A+B)\, \text{AppellF1}\Big[\frac{1}{2}, -2 m, 2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big) \Big/ \Big(3\, \text{AppellF1}\Big[\frac{1}{2}, -2 m, 2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] - 4 m \Big(\text{AppellF1}\Big[\frac{3}{2}, 1-2 m, 2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] + \text{AppellF1}\Big[\frac{3}{2}, -2 m, 1+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big) \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big) - \Big(8 B\, \text{AppellF1}\Big[\frac{1}{2}, -2 m, 1+2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big) \Big/$$

$$\left(\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\left(\text{AppellF1}\left[\frac{1}{2},-2m,1+2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-\frac{2}{3}\left(2m\,\text{AppellF1}\left[\frac{3}{2},1-2m,1+2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(1+2m)\,\text{AppellF1}\left[\frac{3}{2},-2m,2+2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)+$$

$$m\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{-1+2m}$$

$$\left(-\left(\left(\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\Big/\left(2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\right)-\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]}{2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)}\right)$$

$$\left(-\left(\left((A+B)\,\text{AppellF1}\left[-\frac{1}{2},-2m,2m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\Big/\left(\text{AppellF1}\left[-\frac{1}{2},-2m,2m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-4m\left(\text{AppellF1}\left[\frac{1}{2},1-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{1}{2},-2m,1+2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)+\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(\left(3\,(A+B)\,\text{AppellF1}\left[\frac{1}{2},-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\Big/\left(3\,\text{AppellF1}\left[\frac{1}{2},-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-4m\left(\text{AppellF1}\left[\frac{3}{2},1-2m,2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2},-2m,1+2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)-\left(8\,B\,\text{AppellF1}\left[\frac{1}{2},-2m,1+2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\Big/\right.$$

$$\left(\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\left(\text{AppellF1}\left[\frac{1}{2},-2m,1+2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-\frac{2}{3}\left(2m\,\text{AppellF1}\left[\frac{3}{2},1-2m,1+2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+(1+2m)\,\text{AppellF1}\left[\frac{3}{2},-2m,2+2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)+$$

$$\frac{1}{2}\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2m}$$

$$\left(-\left(\left(\left((A+B)\left(m\,\text{AppellF1}\left[\frac{1}{2},1-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+m\,\text{AppellF1}\left[\frac{1}{2},-2m,1+2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\Big/$$

$$\left(\text{AppellF1}\left[-\frac{1}{2},-2m,2m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-4m\left(\text{AppellF1}\left[\frac{1}{2},1-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{1}{2},-2m,1+2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)+$$

$$\left((A+B)\,\text{AppellF1}\left[-\frac{1}{2},-2m,2m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right.$$

$$\left(m\,\text{AppellF1}\left[\frac{1}{2},1-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+m\,\text{AppellF1}\left[\frac{1}{2},-2m,1+2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right.$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-2m\left(\text{AppellF1}\left[\frac{1}{2},1-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{1}{2},-2m,1+2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-4m\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\Big(-\frac{2}{3} m\, \text{AppellF1}\Big[\frac{3}{2}, 1-2 m, 1+2 m, \frac{5}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\, \text{Sec}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big] +$$

$$\frac{1}{6}(1-2 m)\, \text{AppellF1}\Big[\frac{3}{2}, 2-2 m, 2 m, \frac{5}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\, \text{Sec}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big] -$$

$$\frac{1}{6}(1+2 m)\, \text{AppellF1}\Big[\frac{3}{2}, -2 m, 2+2 m, \frac{5}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2, -\text{Tan}\Big[$$

$$\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\, \text{Sec}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]\Big)\Big)\Big)\Big) \Big/$$

$$\Big(\text{AppellF1}\Big[-\frac{1}{2}, -2 m, 2 m, \frac{1}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2, -\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] -$$

$$4 m\Big(\text{AppellF1}\Big[\frac{1}{2}, 1-2 m, 2 m, \frac{3}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] + \text{AppellF1}\Big[\frac{1}{2}, -2 m, 1+2 m, \frac{3}{2}, \text{Tan}\Big[\frac{1}{4}$$

$$\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2, -\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\Big)\, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big)^2 +$$

$$\frac{1}{2} \text{Sec}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]\, \Big(\Big(3\,(A+B)\, \text{AppellF1}\Big[\frac{1}{2},$$

$$-2 m, 2 m, \frac{3}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2, -\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\Big) \Big/$$

$$\Big(3\, \text{AppellF1}\Big[\frac{1}{2}, -2 m, 2 m, \frac{3}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2, -\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] -$$

$$4 m\Big(\text{AppellF1}\Big[\frac{3}{2}, 1-2 m, 2 m, \frac{5}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] + \text{AppellF1}\Big[\frac{3}{2}, -2 m, 1+2 m, \frac{5}{2}, \text{Tan}\Big[\frac{1}{4}$$

$$\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2, -\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\Big)\, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big) -$$

$$\Big(8 B\, \text{AppellF1}\Big[\frac{1}{2}, -2 m, 1+2 m, \frac{3}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\Big) \Big/ \Big(\Big(1+\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big)\, \Big(\text{AppellF1}\Big[\frac{1}{2},$$

$$-2 m, 1+2 m, \frac{3}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2, -\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] -$$

$$\frac{2}{3}\Big(2 m\, \text{AppellF1}\Big[\frac{3}{2}, 1-2 m, 1+2 m, \frac{5}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] + (1+2 m)\, \text{AppellF1}\Big[\frac{3}{2}, -2 m,$$

$$2+2 m, \frac{5}{2}, \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2, -\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\Big)$$

$$\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big)\Big)\Big) + \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2$$

$$\Bigg(\Bigg(3\,(A+B)\,\Bigg(-\frac{1}{3}\,m\,\text{AppellF1}\Big[\frac{3}{2},\,1-2\,m,\,2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]-$$

$$\frac{1}{3}\,m\,\text{AppellF1}\Big[\frac{3}{2},\,-2\,m,\,1+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\Bigg)\Bigg)\Bigg/$$

$$\Bigg(3\,\text{AppellF1}\Big[\frac{1}{2},\,-2\,m,\,2\,m,\,\frac{3}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]-$$

$$4\,m\,\Bigg(\text{AppellF1}\Big[\frac{3}{2},\,1-2\,m,\,2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},\,-2\,m,\,1+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}$$

$$\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\Bigg)\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Bigg)+$$

$$\Bigg(4\,B\,\text{AppellF1}\Big[\frac{1}{2},\,-2\,m,\,1+2\,m,\,\frac{3}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\Bigg)\Bigg/$$

$$\Bigg(\Bigg(1+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Bigg)^2\,\Bigg(\text{AppellF1}\Big[\frac{1}{2},\,-2\,m,\,1+2\,m,\,\frac{3}{2},$$

$$\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]-\frac{2}{3}\,\Bigg(2\,m\,\text{AppellF1}\Big[\frac{3}{2},$$

$$1-2\,m,\,1+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]+$$

$$(1+2\,m)\,\text{AppellF1}\Big[\frac{3}{2},\,-2\,m,\,2+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\Bigg)\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Bigg)\Bigg)-$$

$$\Bigg(8\,B\,\Bigg(-\frac{1}{3}\,m\,\text{AppellF1}\Big[\frac{3}{2},\,1-2\,m,\,1+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]-$$

$$\frac{1}{6}\,(1+2\,m)\,\text{AppellF1}\Big[\frac{3}{2},\,-2\,m,\,2+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\Bigg(1+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Bigg)\,\Bigg(\text{AppellF1}\Big[\frac{1}{2},\,-2\,m,\,1+2\,m,\,\frac{3}{2},$$

$$\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]-\frac{2}{3}\,\Bigg(2\,m\,\text{AppellF1}\Big[\frac{3}{2},$$

$$1-2\,m,\,1+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]+$$

$$(1+2\,m)\,\text{AppellF1}\Big[\frac{3}{2},\,-2\,m,\,2+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)-$$

$$\Big(3\ (A+B)\ \text{AppellF1}\Big[\frac{1}{2},-2 m,2 m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \Big(-2 m\ \Big(\text{AppellF1}\Big[\frac{3}{2},1-2 m,2 m,\frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},$$

$$-2 m,1+2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+3\ \Big(-\frac{1}{3} m\ \text{AppellF1}\Big[$$

$$\frac{3}{2},1-2 m,2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{3} m\ \text{AppellF1}\Big[\frac{3}{2},$$

$$-2 m,1+2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big)-$$

$$4 m\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \Big(-\frac{6}{5} m\ \text{AppellF1}\Big[\frac{5}{2},1-2 m,1+2 m,$$

$$\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\frac{3}{10}\ (1-2 m)\ \text{AppellF1}\Big[$$

$$\frac{5}{2},2-2 m,2 m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{3}{10}\ (1+2 m)\ \text{AppellF1}\Big[$$

$$\frac{5}{2},-2 m,2+2 m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big)\Big)\Big)\Big/$$

$$\Big(3\ \text{AppellF1}\Big[\frac{1}{2},-2 m,2 m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]-$$

$$4 m\ \Big(\text{AppellF1}\Big[\frac{3}{2},1-2 m,2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},-2 m,1+2 m,$$

$$\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)^2+\Big(8 B\ \text{AppellF1}\Big[\frac{1}{2},-2 m,1+2 m,$$

$$\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\left(-\frac{1}{3} m \,\text{AppellF1}\left[\frac{3}{2}, 1-2 m, 1+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] -\right.$$

$$\frac{1}{6}(1+2 m) \,\text{AppellF1}\left[\frac{3}{2}, -2 m, 2+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] -$$

$$\frac{1}{3}\left(2 m \,\text{AppellF1}\left[\frac{3}{2}, 1-2 m, 1+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] + (1+2 m) \,\text{AppellF1}\left[\frac{3}{2}, -2 m, 2+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] - \frac{2}{3} \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\left(2 m\left(-\frac{3}{10}(1+2 m) \,\text{AppellF1}\left[\frac{5}{2}, 1-2 m, 2+2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right.\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] + \frac{3}{10}(1-2 m) \,\text{AppellF1}\left[\frac{5}{2}, 2-2 m, 1+2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right) + (1+2 m)$$

$$\left(-\frac{3}{5} m \,\text{AppellF1}\left[\frac{5}{2}, 1-2 m, 2+2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] - \frac{3}{10}(2+2 m) \,\text{AppellF1}\left[\frac{5}{2}, -2 m, 3+2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\right)\right) \Big/$$

$$\left(\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\left(\text{AppellF1}\left[\frac{1}{2}, -2 m, 1+2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] - \frac{2}{3}\left(2 m \,\text{AppellF1}\left[\frac{3}{2}, 1-2 m, 1+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] +\right.\right.\right.$$

$$(1+2 m) \,\text{AppellF1}\left[\frac{3}{2}, -2 m, 2+2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)^2\Big)\Big)\Big)\Big)\Big)\Big)$$

Problem 201: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^m\,(A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^2}\,dx$$

Optimal (type 5, 148 leaves, 5 steps):

$$\frac{1}{3\,a\,c^2\,f\,(1-m)}2^{\frac{1}{2}+m}\,(A\,(1-m)-B\,(2+m))\ \text{Hypergeometric2F1}\left[-\frac{3}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{1}{2}\,(1-\text{Sin}[e+f x])\right]\ \text{Sec}[e+f x]^3\,(1+\text{Sin}[e+f x])^{\frac{1}{2}-m}\,(a+a\,\text{Sin}[e+f x])^{1+m}+\frac{B\,\text{Sec}[e+f x]^3\,(a+a\,\text{Sin}[e+f x])^{2+m}}{a^2\,c^2\,f\,(1-m)}$$

Result (type 6, 15419 leaves):

$$-\Bigg(\Bigg(\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2m}\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^3\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^4\right.$$

$$(a+a\,\text{Sin}[e+f x])^m\left(\frac{A\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m}}{\left(\text{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\text{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]\right)^4}+\right.$$

$$\left.\frac{B\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m}\text{Sin}[e+f x]}{\left(\text{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\text{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]\right)^4}\right)$$

$$\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2m}\Bigg(-\Bigg(\Bigg((A+B)\ \text{AppellF1}\left[-\frac{3}{2},-2m,2m,-\frac{1}{2},\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\Big/$$

$$\Bigg(\text{AppellF1}\left[-\frac{3}{2},-2m,2m,-\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$4m\left(\text{AppellF1}\left[-\frac{1}{2},1-2m,2m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[-\frac{1}{2},-2m,1+2m,\frac{1}{2},\right.$$

$$\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)+$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg(-\Bigg(\Bigg(3\,(3A-5B)\ \text{AppellF1}\left[-\frac{1}{2},-2m,2m,\frac{1}{2},\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\Big/$$

$$(\text{AppellF1}[-\tfrac{1}{2},-2m,2m,\tfrac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]-$$

$$4m\,(\text{AppellF1}[\tfrac{1}{2},1-2m,2m,\tfrac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]+\text{AppellF1}[\tfrac{1}{2},-2m,1+2m,\tfrac{3}{2},\text{Tan}[\tfrac{1}{4}$$

$$\left(-e+\frac{\pi}{2}-f x\right)]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2])\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2))+$$

$$(20\,(A+B)\,m\,\text{AppellF1}[\tfrac{3}{2},-2m,2m,\tfrac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]\,(\text{AppellF1}[\tfrac{3}{2},1-2m,2m,\tfrac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]+\text{AppellF1}[\tfrac{3}{2},-2m,1+2m,\tfrac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2])\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^6-$$

$$3\,\text{AppellF1}[\tfrac{1}{2},-2m,2m,\tfrac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(-12\,(3A-5B)\,m\,(\text{AppellF1}[\tfrac{5}{2},1-2m,2m,\tfrac{7}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]+\text{AppellF1}[\tfrac{5}{2},$$

$$-2m,1+2m,\tfrac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2])$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2+5\,\text{AppellF1}[\tfrac{3}{2},-2m,2m,\tfrac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]$$

$$(B\,(-15+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2)+A\,(9+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2))))))\Big/$$

$$((3\,\text{AppellF1}[\tfrac{1}{2},-2m,2m,\tfrac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]-$$

$$4m\,(\text{AppellF1}[\tfrac{3}{2},1-2m,2m,\tfrac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]+\text{AppellF1}[\tfrac{3}{2},-2m,1+2m,\tfrac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2])\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2)$$

$$(-5\,\text{AppellF1}[\tfrac{3}{2},-2m,2m,\tfrac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]+$$

$$4m\,(\text{AppellF1}[\tfrac{5}{2},1-2m,2m,\tfrac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]+\text{AppellF1}[\tfrac{5}{2},-2m,1+2m,\tfrac{7}{2},\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-$$

$$f x)]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2])\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2)))))\Big/$$

$$\Bigg(48\,f\,(c-c\,\text{Sin}[e+f\,x])^2\,\Bigg(-\frac{1}{64}\,\text{Cot}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\text{Csc}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2$$

$$\left(\frac{1-\text{Tan}\big[\frac{1}{4}\big(-e+\frac{\pi}{2}-f\,x\big)\big]^2}{1+\text{Tan}\big[\frac{1}{4}\big(-e+\frac{\pi}{2}-f\,x\big)\big]^2}\right)^{2\,m}$$

$$\Bigg(-\Bigg(\Bigg((A+B)\,\text{AppellF1}\Big[-\frac{3}{2},\,-2\,m,\,2\,m,\,-\frac{1}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Bigg)\Big/\Bigg(\text{AppellF1}\Big[-\frac{3}{2},\,-2\,m,\,2\,m,\,-\frac{1}{2},$$

$$\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+4\,m\,\Bigg(\text{AppellF1}\Big[-\frac{1}{2},$$

$$1-2\,m,\,2\,m,\,\frac{1}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+$$

$$\text{AppellF1}\Big[-\frac{1}{2},\,-2\,m,\,1+2\,m,\,\frac{1}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Bigg)\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Bigg)\Bigg)+$$

$$\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\Bigg(-\Bigg(\Bigg(3\,(3\,A-5\,B)\,\text{AppellF1}\Big[-\frac{1}{2},\,-2\,m,\,2\,m,\,\frac{1}{2},$$

$$\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Bigg)\Big/\Bigg(\text{AppellF1}\Big[-\frac{1}{2},\,-2\,m,$$

$$2\,m,\,\frac{1}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]-4\,m\,\Bigg(\text{AppellF1}\Big[$$

$$\frac{1}{2},\,1-2\,m,\,2\,m,\,\frac{3}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{1}{2},\,-2\,m,\,1+2\,m,\,\frac{3}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Bigg)\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Bigg)\Bigg)+$$

$$\Bigg(20\,(A+B)\,m\,\text{AppellF1}\Big[\frac{3}{2},\,-2\,m,\,2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\,\Bigg(\text{AppellF1}\Big[\frac{3}{2},\,1-2\,m,\,2\,m,\,\frac{5}{2},$$

$$\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},$$

$$-2\,m,\,1+2\,m,\,\frac{5}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Bigg)$$

$$\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^6-3\,\text{AppellF1}\Big[\frac{1}{2},\,-2\,m,\,2\,m,\,\frac{3}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\Bigg(-12\,(3\,A-5\,B)\,m\,\Bigg(\text{AppellF1}\Big[$$

$$\frac{5}{2},\,1-2\,m,\,2\,m,\,\frac{7}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,-\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{5}{2},\,-2\,m,\,1+2\,m,\,\frac{7}{2},\,\text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2+5\ \text{AppellF1}\Big[\frac{3}{2},$$

$$-2 m,\ 2 m,\ \frac{5}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\left(B\left(-15+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+A\left(9+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\Big)\Big)\Big/$$

$$\Big(\Big(3\ \text{AppellF1}\Big[\frac{1}{2},\ -2 m,\ 2 m,\ \frac{3}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]-$$

$$4 m\ \Big(\text{AppellF1}\Big[\frac{3}{2},\ 1-2 m,\ 2 m,\ \frac{5}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},\ -2 m,\ 1+2 m,$$

$$\frac{5}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\ \Big(-5\ \text{AppellF1}\Big[\frac{3}{2},\ -2 m,\ 2 m,\ \frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+4 m\ \Big(\text{AppellF1}\Big[\frac{5}{2},$$

$$1-2 m,\ 2 m,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{5}{2},\ -2 m,\ 1+2 m,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)\Big)\Big)+$$

$$\frac{1}{24} m\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^3\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{-1+2 m}$$

$$\Bigg(-\Big(\Big(\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\ \left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big/$$

$$\left(2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\Big)-$$

$$\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]}{2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)}\Bigg)$$

$$\Big(-\Big(\Big((A+B)\ \text{AppellF1}\Big[-\frac{3}{2},\ -2 m,\ 2 m,\ -\frac{1}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\Big/\ \Big(\text{AppellF1}\Big[-\frac{3}{2},\ -2 m,\ 2 m,\ -\frac{1}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+4 m\ \Big(\text{AppellF1}\Big[-\frac{1}{2},$$

$$1-2 m,\ 2 m,\ \frac{1}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$\text{AppellF1}\Big[-\frac{1}{2},\ -2 m,\ 1+2 m,\ \frac{1}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)+$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg(-\Bigg(\Bigg(3\,(3 A-5 B)\,\text{AppellF1}\Big[-\frac{1}{2},-2 m,2 m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Bigg)\Big/\Bigg(\text{AppellF1}\Big[-\frac{1}{2},-2 m,2 m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]-4 m\Big(\text{AppellF1}\Big[\frac{1}{2},1-2 m,2 m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{1}{2},-2 m,1+2 m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)+$$

$$\Bigg(20\,(A+B)\,m\,\text{AppellF1}\Big[\frac{3}{2},-2 m,2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \Big(\text{AppellF1}\Big[\frac{3}{2},1-2 m,2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},-2 m,1+2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^6-3\,\text{AppellF1}\Big[\frac{1}{2},-2 m,2 m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big(-12\,(3 A-5 B)\,m\,\Big(\text{AppellF1}\Big[\frac{5}{2},1-2 m,2 m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{5}{2},-2 m,1+2 m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2+5\,\text{AppellF1}\Big[\frac{3}{2},-2 m,2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\Big(B\Big(-15+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+A\Big(9+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)\Big)\Bigg)\Big/$$

$$\Bigg(\Bigg(3\,\text{AppellF1}\Big[\frac{1}{2},-2 m,2 m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]-4 m\Big(\text{AppellF1}\Big[\frac{3}{2},1-2 m,2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},-2 m,1+2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\ \Big(-5\,\text{AppellF1}\Big[\frac{3}{2},-2 m,2 m,\frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+4 m\left(\text{AppellF1}\left[\frac{5}{2},\right.\right.$$

$$1-2 m, 2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$\text{AppellF1}\left[\frac{5}{2}, -2 m, 1+2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right) \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)+$$

$$\frac{1}{48} \text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^3\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2 m}$$

$$\left(-\left(\left(\left((A+B)\left(-3 m \text{AppellF1}\left[-\frac{1}{2}, 1-2 m, 2 m, \frac{1}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.\right.\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$3 m \text{AppellF1}\left[-\frac{1}{2}, -2 m, 1+2 m, \frac{1}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\Big/$$

$$\left(\text{AppellF1}\left[-\frac{3}{2}, -2 m, 2 m, -\frac{1}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\right.$$

$$4 m\left(\text{AppellF1}\left[-\frac{1}{2}, 1-2 m, 2 m, \frac{1}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[-\frac{1}{2}, -2 m, 1+2 m, \frac{1}{2}, \text{Tan}\left[\frac{1}{4}\right.\right.$$

$$\left.\left.\left.\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right) \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)+$$

$$\left((A+B) \text{AppellF1}\left[-\frac{3}{2}, -2 m, 2 m, -\frac{1}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(-3 m \text{AppellF1}\left[-\frac{1}{2}, 1-2 m, 2 m, \frac{1}{2},\right.\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-3 m \text{AppellF1}\left[-\frac{1}{2}, -2 m, 1+2 m, \frac{1}{2},\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+2 m\left(\text{AppellF1}\left[-\frac{1}{2}, 1-2 m, 2 m, \frac{1}{2},\right.\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[-\frac{1}{2},\right.$$

$$\left.\left.-2 m, 1+2 m, \frac{1}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+4 m \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\left(2\,m\,\text{AppellF1}\left[\frac{1}{2},1-2\,m,1+2\,m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-$$
$$\frac{1}{2}\,(1-2\,m)\,\text{AppellF1}\left[\frac{1}{2},2-2\,m,2\,m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+$$
$$\frac{1}{2}\,(1+2\,m)\,\text{AppellF1}\left[\frac{1}{2},-2\,m,2+2\,m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\right.\right.$$
$$\left.\left.\left.\left.\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\right)\right)\Big/$$
$$\left(\text{AppellF1}\left[-\frac{3}{2},-2\,m,2\,m,-\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\right.$$
$$4\,m\left(\text{AppellF1}\left[-\frac{1}{2},1-2\,m,2\,m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\text{AppellF1}\left[-\frac{1}{2},-2\,m,1+2\,m,\right.$$
$$\left.\left.\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2+\frac{1}{2}\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$
$$\left(-\left(\left(3\,(3\,A-5\,B)\,\text{AppellF1}\left[-\frac{1}{2},-2\,m,2\,m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.\right.$$
$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\Big/\left(\text{AppellF1}\left[-\frac{1}{2},-2\,m,2\,m,\frac{1}{2},\right.\right.$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]-4\,m\left(\text{AppellF1}\left[\frac{1}{2},\right.\right.$$
$$\left.1-2\,m,2\,m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$
$$\text{AppellF1}\left[\frac{1}{2},-2\,m,1+2\,m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$
$$\left.\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)+$$
$$\left(20\,(A+B)\,m\,\text{AppellF1}\left[\frac{3}{2},-2\,m,2\,m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\left(\text{AppellF1}\left[\frac{3}{2},1-2\,m,2\,m,\frac{5}{2},\right.\right.$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2},\right.$$
$$\left.\left.-2\,m,1+2\,m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^6-3\,\text{AppellF1}\left[\frac{1}{2},-2\,m,2\,m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(-12\,(3\,A-5\,B)\,m\left(\text{AppellF1}\left[\right.\right.\right.$$

$$\frac{5}{2},\ 1-2m,\ 2m,\ \frac{7}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{5}{2},\ -2m,\ 1+2m,\ \frac{7}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\Big)\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2+5\,\text{AppellF1}\Big[\frac{3}{2},$$

$$-2m,\ 2m,\ \frac{5}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]$$

$$\Big(B\ \Big(-15+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big)+A\ \Big(9+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big)\Big)\Big)\Big)\Big/$$

$$\Big(\Big(3\,\text{AppellF1}\Big[\frac{1}{2},\ -2m,\ 2m,\ \frac{3}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]-$$

$$4m\ \Big(\text{AppellF1}\Big[\frac{3}{2},\ 1-2m,\ 2m,\ \frac{5}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},\ -2m,\ 1+2m,$$

$$\frac{5}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\Big)$$

$$\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big)\ \Big(-5\,\text{AppellF1}\Big[\frac{3}{2},\ -2m,\ 2m,\ \frac{5}{2},$$

$$\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+4m\ \Big(\text{AppellF1}\Big[\frac{5}{2},$$

$$1-2m,\ 2m,\ \frac{7}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{5}{2},\ -2m,\ 1+2m,\ \frac{7}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\Big)\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big)\Big)\Big)+$$

$$\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\ \Big(-\Big(\Big(3\ (3A-5B)\ \Big(m\,\text{AppellF1}\Big[\frac{1}{2},\ 1-2m,\ 2m,\ \frac{3}{2},$$

$$\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]$$

$$\text{Sec}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]+m\,\text{AppellF1}\Big[\frac{1}{2},$$

$$-2m,\ 1+2m,\ \frac{3}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]$$

$$\text{Sec}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]\Big)\Big)\Big/\ \Big(\text{AppellF1}\Big[-\frac{1}{2},$$

$$-2m,\ 2m,\ \frac{1}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]-$$

$$4m\ \Big(\text{AppellF1}\Big[\frac{1}{2},\ 1-2m,\ 2m,\ \frac{3}{2},\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+\text{AppellF1}\Big[\frac{1}{2},\ -2m,\ 1+2m,\ \frac{3}{2},\ \text{Tan}\Big[\frac{1}{4}\ \Big(-e+$$

$$\frac{\pi}{2}-f x\Big)\Big]^2,\ -\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\Big)\ \text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big)\Big)+$$

$$\left(3\,(3\,A-5\,B)\,\text{AppellF1}\left[-\frac{1}{2},-2\,m,2\,m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Bigg(m\,\text{AppellF1}\left[\frac{1}{2},1-2\,m,2\,m,\frac{3}{2},\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+m\,\text{AppellF1}\left[\frac{1}{2},-2\,m,1+2\,m,\frac{3}{2},\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-2\,m\,\Bigg(\text{AppellF1}\left[\frac{1}{2},1-2\,m,2\,m,\frac{3}{2},\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{1}{2},$$

$$-2\,m,1+2\,m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Bigg)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-4\,m\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\Bigg(-\frac{2}{3}\,m\,\text{AppellF1}\left[\frac{3}{2},1-2\,m,1+2\,m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+\frac{1}{6}\,(1-2\,m)\,\text{AppellF1}\left[\frac{3}{2},2-2\,m,\right.$$

$$2\,m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{6}\,(1+2\,m)\,\text{AppellF1}\Big[$$

$$\frac{3}{2},-2\,m,2+2\,m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\left.\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\right)\right)\Big/$$

$$\left(\text{AppellF1}\left[-\frac{1}{2},-2\,m,2\,m,\frac{1}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]-\right.$$

$$4\,m\,\Bigg(\text{AppellF1}\left[\frac{1}{2},1-2\,m,2\,m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{1}{2},-2\,m,1+2\,m,\frac{3}{2},\text{Tan}\Big[\frac{1}{4}\Big(-e+$$

$$\left.\frac{\pi}{2}-f\,x\right)\Big]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Bigg)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)^2-$$

$$\Bigg(\Bigg(-2\,m\,\Bigg(\text{AppellF1}\left[\frac{3}{2},1-2\,m,2\,m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},-2\,m,1+2\,m,$$

$$\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Bigg)$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+3\left(-\frac{1}{3}\,m\,\mathrm{AppellF1}\left[\frac{3}{2},1-2\,m,2\,m,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right.$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{3}\,m\,\mathrm{AppellF1}\left[\frac{3}{2},-2\,m,1+2\,m,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\left.\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)-$$

$$4\,m\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(-\frac{6}{5}\,m\,\mathrm{AppellF1}\left[\frac{5}{2},1-2\,m,1+2\,m,\frac{7}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right.$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+\frac{3}{10}\,(1-2\,m)\,\mathrm{AppellF1}\left[\frac{5}{2},2-2\,m,2\,m,\frac{7}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{3}{10}\,(1+2\,m)\,\mathrm{AppellF1}\left[\frac{5}{2},-2\,m,2+2\,m,\frac{7}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\left.\left.\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\right)$$

$$\left(20\,(A+B)\,m\,\mathrm{AppellF1}\left[\frac{3}{2},-2\,m,2\,m,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\left(\mathrm{AppellF1}\left[\frac{3}{2},1-2\,m,2\,m,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\mathrm{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$\left.\left.-2\,m,1+2\,m,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)$$

$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^6-3\,\mathrm{AppellF1}\left[\frac{1}{2},-2\,m,2\,m,\frac{3}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\left(-12\,(3\,A-5\,B)\,m\left(\mathrm{AppellF1}\left[\frac{5}{2},1-2\,m,2\,m,\frac{7}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$\left.\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\mathrm{AppellF1}\left[\frac{5}{2},-2\,m,1+2\,m,\frac{7}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)$$

$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2+5\,\mathrm{AppellF1}\left[\frac{3}{2},-2\,m,2\,m,\frac{5}{2},\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\left(B\left(-15+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+A\left(9+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\Bigg(3\,\text{AppellF1}\left[\frac{1}{2},-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-$$
$$4m\left(\text{AppellF1}\left[\frac{3}{2},1-2m,2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2},-2m,1+2m,\right.$$
$$\left.\left.\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)^2\Bigg(-5\,\text{AppellF1}\left[\frac{3}{2},-2m,2m,\frac{5}{2},\right.$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+4m\Bigg(\text{AppellF1}\Big[$$
$$\frac{5}{2},1-2m,2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$
$$\text{AppellF1}\left[\frac{5}{2},-2m,1+2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)-$$
$$\Bigg(\Bigg(2m\left(\text{AppellF1}\left[\frac{5}{2},1-2m,2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{5}{2},-2m,1+2m,\right.$$
$$\left.\left.\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-5\Bigg(-\frac{3}{5}m\,\text{AppellF1}\Big[$$
$$\frac{5}{2},1-2m,2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{3}{5}m\,\text{AppellF1}\Big[\frac{5}{2},$$
$$-2m,1+2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)+$$
$$4m\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg(-\frac{10}{7}m\,\text{AppellF1}\Big[\frac{7}{2},1-2m,1+2m,$$
$$\frac{9}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\frac{5}{14}(1-2m)\,\text{AppellF1}\Big[$$
$$\frac{7}{2},2-2m,2m,\frac{9}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{5}{14}(1+2m)\,\text{AppellF1}\Big[$$

$$\frac{7}{2},\ -2\,m,\ 2+2\,m,\ \frac{9}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)\Big)\Big)$$

$$\Big(20\,(A+B)\,m\,\text{AppellF1}\Big[\frac{3}{2},\ -2\,m,\ 2\,m,\ \frac{5}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\ \Big(\text{AppellF1}\Big[\frac{3}{2},\ 1-2\,m,\ 2\,m,\ \frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},$$

$$-2\,m,\ 1+2\,m,\ \frac{5}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^6-3\,\text{AppellF1}\Big[\frac{1}{2},\ -2\,m,\ 2\,m,\ \frac{3}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\Big(-12\,(3\,A-5\,B)\,m\,\Big(\text{AppellF1}\Big[\frac{5}{2},\ 1-2\,m,\ 2\,m,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{5}{2},\ -2\,m,\ 1+2\,m,$$

$$\frac{7}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2+5\,\text{AppellF1}\Big[\frac{3}{2},\ -2\,m,\ 2\,m,\ \frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\left(B\left(-15+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)+A\left(9+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\Big)\Big)\Big)\Big)\Big/$$

$$\Big(\Big(3\,\text{AppellF1}\Big[\frac{1}{2},\ -2\,m,\ 2\,m,\ \frac{3}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]-$$

$$4\,m\,\Big(\text{AppellF1}\Big[\frac{3}{2},\ 1-2\,m,\ 2\,m,\ \frac{5}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2},\ -2\,m,\ 1+2\,m,$$

$$\frac{5}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)\ \Big(-5\,\text{AppellF1}\Big[\frac{3}{2},\ -2\,m,\ 2\,m,\ \frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+4\,m\,\Big(\text{AppellF1}\Big[\frac{5}{2},$$

$$1-2\,m,\ 2\,m,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{5}{2},\ -2\,m,\ 1+2\,m,\ \frac{7}{2},\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)^2\Big)+$$

$$\left(30\,(A+B)\,m\,\text{AppellF1}\left[\frac{3}{2},-2m,2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(\text{AppellF1}\left[\frac{3}{2},1-2m,2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2},-2m,1+2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\right.$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^5+20\,(A+B)\,m$$

$$\left(\text{AppellF1}\left[\frac{3}{2},1-2m,2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2},-2m,1+2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^6$$

$$\left(-\frac{3}{5}m\,\text{AppellF1}\left[\frac{5}{2},1-2m,2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]-\frac{3}{5}m\,\text{AppellF1}\left[\frac{5}{2},-2m,1+2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)+$$

$$20\,(A+B)\,m\,\text{AppellF1}\left[\frac{3}{2},-2m,2m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^6$$

$$\left(-\frac{6}{5}m\,\text{AppellF1}\left[\frac{5}{2},1-2m,1+2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]+\frac{3}{10}(1-2m)\,\text{AppellF1}\left[\frac{5}{2},2-2m,2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]-\frac{3}{10}(1+2m)\,\text{AppellF1}\left[\frac{5}{2},-2m,2+2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)-$$

$$\frac{3}{2}\text{AppellF1}\left[\frac{1}{2},-2m,2m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]$$

$$\left(-12\,(3A-5B)\,m\left(\text{AppellF1}\left[\frac{5}{2},1-2m,2m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{5}{2},-2 m,1+2 m,$$
$$\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2+5\,\text{AppellF1}\left[\frac{3}{2},-2 m,2 m,\frac{5}{2},$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$
$$\left(B\left(-15+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+A\left(9+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)-$$
$$3\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(-\frac{1}{3} m\,\text{AppellF1}\left[\frac{3}{2},1-2 m,2 m,\frac{5}{2},$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$
$$\frac{1}{3} m\,\text{AppellF1}\left[\frac{3}{2},-2 m,1+2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)$$
$$\left(-12\,(3 A-5 B)\,m\left(\text{AppellF1}\left[\frac{5}{2},1-2 m,2 m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{5}{2},-2 m,1+2 m,$$
$$\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2+5\,\text{AppellF1}\left[\frac{3}{2},-2 m,2 m,\frac{5}{2},$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$
$$\left(B\left(-15+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+A\left(9+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)-$$
$$3\,\text{AppellF1}\left[\frac{1}{2},-2 m,2 m,\frac{3}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(-6\,(3 A-5 B)\,m\left(\text{AppellF1}\left[\frac{5}{2},1-2 m,2 m,\frac{7}{2},$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{5}{2},$$
$$-2 m,1+2 m,\frac{7}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+5\,\text{AppellF1}\left[\frac{3}{2},$$
$$-2 m,2 m,\frac{5}{2},\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$
$$\left(\frac{1}{2} A\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\right.$$

$$\frac{1}{2} B \,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right])) -$$

$$12 \left(3 A-5 B\right) m \,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (-\frac{10}{7} m \,\text{AppellF1}[\frac{7}{2}, 1-2 m,$$

$$1+2 m, \frac{9}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] +$$

$$\frac{5}{14}\left(1-2 m\right) \text{AppellF1}[\frac{7}{2}, 2-2 m, 2 m, \frac{9}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2] \,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] - \frac{5}{14}\left(1+2 m\right) \text{AppellF1}[\frac{7}{2}, -2 m,$$

$$2+2 m, \frac{9}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]) + 5 (-\frac{3}{5} m \,\text{AppellF1}[$$

$$\frac{5}{2}, 1-2 m, 2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] - \frac{3}{5} m \,\text{AppellF1}[\frac{5}{2},$$

$$-2 m, 1+2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]))$$

$$\left(B \left(-15+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right) + A \left(9+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)))) \Big/$$

$$((3 \,\text{AppellF1}[\frac{1}{2}, -2 m, 2 m, \frac{3}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2] -$$

$$4 m (\text{AppellF1}[\frac{3}{2}, 1-2 m, 2 m, \frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2] + \text{AppellF1}[\frac{3}{2}, -2 m, 1+2 m,$$

$$\frac{5}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2])$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2) \ (-5 \,\text{AppellF1}[\frac{3}{2}, -2 m, 2 m, \frac{5}{2},$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2] + 4 m (\text{AppellF1}[\frac{5}{2},$$

$$1-2 m, 2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2] +$$

$$\text{AppellF1}[\frac{5}{2}, -2 m, 1+2 m, \frac{7}{2}, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)\Big)\Big)\Big)\Big)\Big)\Big)$$

Problem 202: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^m\,(A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^3}\,dx$$

Optimal (type 5, 148 leaves, 5 steps):

$$\frac{1}{5 a^2 c^3 f (2-m)} 2^{\frac{1}{2}+m} (A (2-m)-B (3+m))\ \text{Hypergeometric2F1}\left[-\frac{5}{2},\frac{1}{2}-m,-\frac{3}{2},\frac{1}{2}(1-\text{Sin}[e+f x])\right]$$
$$\text{Sec}[e+f x]^5 (1+\text{Sin}[e+f x])^{\frac{1}{2}-m} (a+a\,\text{Sin}[e+f x])^{2+m}+\frac{B\,\text{Sec}[e+f x]^5 (a+a\,\text{Sin}[e+f x])^{3+m}}{a^3 c^3 f (2-m)}$$

Result (type 6, 34 716 leaves): Display of huge result suppressed!

Problem 203: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^m\,(A+B\,\text{Sin}[e+f x])}{\sqrt{c-c\,\text{Sin}[e+f x]}}\,dx$$

Optimal (type 5, 118 leaves, 4 steps):

$$-\frac{2 B\,\text{Cos}[e+f x]\,(a+a\,\text{Sin}[e+f x])^m}{f (1+2 m) \sqrt{c-c\,\text{Sin}[e+f x]}}+$$
$$\left((A+B)\,\text{Cos}[e+f x]\ \text{Hypergeometric2F1}\left[1,\frac{1}{2}+m,\frac{3}{2}+m,\frac{1}{2}(1+\text{Sin}[e+f x])\right]\right.$$
$$\left.(a+a\,\text{Sin}[e+f x])^m\right)\Big/\left(f (1+2 m) \sqrt{c-c\,\text{Sin}[e+f x]}\right)$$

Result (type 6, 7013 leaves):

$$-\Bigg(\Bigg(\sqrt{2}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)$$
$$(a+a\,\text{Sin}[e+f x])^m\left(\frac{A\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2 m}}{\text{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\text{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]}+\right.$$
$$\left.\frac{B\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2 m}\text{Sin}[e+f x]}{\text{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\text{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]}\right)$$
$$\left(2 B\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]-\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2 m}\right)+\right.$$

$$\left(A\,(1+m)\,\text{AppellF1}\left[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Big)\Big/$$

$$\left(-2\,(1+m)\,\text{AppellF1}\left[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\Big(\text{AppellF1}\Big[2+2m,\,2m,\,2,\,3+2m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\left[2+2m,\,1+2m,\,1,\,3+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\,1-\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Big)+$$

$$\left(B\,(1+m)\,\text{AppellF1}\left[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Big)\Big/$$

$$\left(-2\,(1+m)\,\text{AppellF1}\left[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\Big(\text{AppellF1}\Big[2+2m,\,2m,\,2,\,3+2m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\left[2+2m,\,1+2m,\,1,\,3+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\,1-\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Big)\Big)\Bigg)\Bigg/$$

$$\left(f\,(1+2m)\,\sqrt{c-c\,\text{Sin}[e+fx]}\,\left(-\frac{1}{1+2m}\sqrt{2}\,m\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{-1+2m}\right.\right.$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]\left(2B\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]-\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{-2m}\right)+\right.$$

$$\left(A\,(1+m)\,\text{AppellF1}\left[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\,1-\right.\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Big)\Big/$$

$$\left(-2\,(1+m)\,\text{AppellF1}\left[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\Big(\text{AppellF1}\Big[2+2m,\,2m,\,2,\,3+2m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\left[2+2m,\,1+2m,\,1,\,3+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big)+$$

$$\Big(B\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big/$$

$$\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big)+$$

$$\frac{1}{1+2\,m}\sqrt{2}\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{2\,m}\Big(2\,B\,\Big(-\frac{1}{2}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-$$

$$m\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1-2\,m}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)-$$

$$\Big(A\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)\Big/$$

$$\Big(2\,\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big)-$$

$$\Big(B\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)\Big/$$

$$\Big(2\,\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big)-$$

$$\Big(A\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big/$$

$$\Big(2\,\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big)-$$

$$\Big(B\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big/$$

$$\Big(2\,\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big)+$$

$$\Big(A\,(1+m)\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big(-\frac{1}{2\,(2+2\,m)}(1+2\,m)\,\text{AppellF1}\Big[2+2\,m,$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}$$

$$m\,(1+2\,m)\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)$$

$$\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big/\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,$$

$$\frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big), 1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] + \Big(\text{AppellF1}\Big[2+2 m,$$

$$2 m, 2, 3+2 m, \frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big), 1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] +$$

$$m \,\text{AppellF1}\Big[2+2 m, 1+2 m, 1, 3+2 m, \frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big),$$

$$1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\Big) \Big(-1+\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big)\Big) +$$

$$\Big(B (1+m) \,\text{Cot}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2 \Big(-\frac{1}{2 (2+2 m)} (1+2 m) \,\text{AppellF1}\Big[2+2 m,$$

$$2 m, 2, 3+2 m, \frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big), 1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]$$

$$\text{Sec}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2 \,\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big] - \frac{1}{2 (2+2 m)}$$

$$m (1+2 m) \,\text{AppellF1}\Big[2+2 m, 1+2 m, 1, 3+2 m, \frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big),$$

$$1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] \,\text{Sec}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2 \,\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]\Big)$$

$$\Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big)\Big) \Big/ \Big(-2 (1+m) \,\text{AppellF1}\Big[1+2 m, 2 m, 1, 2+2 m,$$

$$\frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big), 1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] + \Big(\text{AppellF1}\Big[2+2 m,$$

$$2 m, 2, 3+2 m, \frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big), 1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] +$$

$$m \,\text{AppellF1}\Big[2+2 m, 1+2 m, 1, 3+2 m, \frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big),$$

$$1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\Big) \Big(-1+\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big)\Big) -$$

$$\Big(A (1+m) \,\text{AppellF1}\Big[1+2 m, 2 m, 1, 2+2 m, \frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big),$$

$$1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] \,\text{Cot}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2 \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big)$$

$$\Big(\frac{1}{2} \Big(\text{AppellF1}\Big[2+2 m, 2 m, 2, 3+2 m, \frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big),$$

$$1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big] + m \,\text{AppellF1}\Big[2+2 m, 1+2 m, 1, 3+2 m,$$

$$\frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big), 1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]\Big)$$

$$\text{Sec}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2 \,\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big] - 2 (1+m)$$

$$\Big(-\frac{1}{2 (2+2 m)} (1+2 m) \,\text{AppellF1}\Big[2+2 m, 2 m, 2, 3+2 m,$$

$$\frac{1}{2} \Big(1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big), 1-\text{Tan}\Big[\frac{1}{4} \Big(-e+\frac{\pi}{2}-f x\Big)\Big]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2\left(2+2 m\right)} m\left(1+2 m\right)$$

$$\text{AppellF1}\left[2+2 m, 1+2 m, 1, 3+2 m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\right.$$

$$\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)+$$

$$\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\left(-\frac{1}{3+2 m}\left(2+2 m\right) \text{AppellF1}\left[3+2 m, 2 m,\right.\right.$$

$$\left.3, 4+2 m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2\left(3+2 m\right)} m\left(2+2 m\right)$$

$$\text{AppellF1}\left[3+2 m, 1+2 m, 2, 4+2 m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+$$

$$m\left(-\frac{1}{2\left(3+2 m\right)}\left(2+2 m\right) \text{AppellF1}\left[3+2 m, 1+2 m, 2, 4+2 m,\right.\right.$$

$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{4\left(3+2 m\right)}$$

$$\left(1+2 m\right)\left(2+2 m\right) \text{AppellF1}\left[3+2 m, 2+2 m, 1, 4+2 m,\right.$$

$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\left.\left.\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\right)\right)\right) \Big/$$

$$\left(-2\left(1+m\right) \text{AppellF1}\left[1+2 m, 2 m, 1, 2+2 m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2 m, 2 m, 2, 3+2 m,\right.\right.$$

$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$m \text{AppellF1}\left[2+2 m, 1+2 m, 1, 3+2 m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$

$$\left.\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)^2-$$

$$\left(B\left(1+m\right) \text{AppellF1}\left[1+2 m, 2 m, 1, 2+2 m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)$$

$$\left(\frac{1}{2}\left(\text{AppellF1}\left[2+2 m, 2 m, 2, 3+2 m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.\right.$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,$$
$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-2\,(1+m)$$
$$\Big(-\frac{1}{2\,(2+2\,m)}(1+2\,m)\,\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$
$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}m\,(1+2\,m)$$
$$\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-$$
$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)+$$
$$\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big(-\frac{1}{3+2\,m}(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,2\,m,$$
$$3,\,4+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(3+2\,m)}m\,(2+2\,m)$$
$$\text{AppellF1}\Big[3+2\,m,\,1+2\,m,\,2,\,4+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$
$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+$$
$$m\,\Big(-\frac{1}{2\,(3+2\,m)}(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,1+2\,m,\,2,\,4+2\,m,$$
$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{4\,(3+2\,m)}$$
$$(1+2\,m)\,(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,2+2\,m,\,1,\,4+2\,m,$$
$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)\Big)\Big)\Big)\Big)\Big/$$
$$\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$
$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$
$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$
$$\left.\left.\left.\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)^2\right)\right)\right)\right)$$

Problem 204: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int\frac{(A+B\,\text{Sin}[e+f x])\,(c+c\,\text{Sin}[e+f x])^m}{\sqrt{a-a\,\text{Sin}[e+f x]}}\,dx$$

Optimal (type 5, 118 leaves, 4 steps):

$$-\frac{2B\,\text{Cos}[e+f x]\,(c+c\,\text{Sin}[e+f x])^m}{f\,(1+2m)\,\sqrt{a-a\,\text{Sin}[e+f x]}}+$$
$$\left((A+B)\,\text{Cos}[e+f x]\,\text{Hypergeometric2F1}\left[1,\frac{1}{2}+m,\frac{3}{2}+m,\frac{1}{2}(1+\text{Sin}[e+f x])\right]\right.$$
$$\left.(c+c\,\text{Sin}[e+f x])^m\right)\Big/\left(f\,(1+2m)\,\sqrt{a-a\,\text{Sin}[e+f x]}\right)$$

Result (type 6, 7013 leaves):

$$-\left(\left(\left(\sqrt{2}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\right.\right.\right.$$
$$(c+c\,\text{Sin}[e+f x])^m\left(\frac{A\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m}}{\text{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\text{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]}+\right.$$
$$\left.\frac{B\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m}\text{Sin}[e+f x]}{\text{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\text{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]}\right)$$
$$\left(2B\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]-\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2m}\right)+\right.$$
$$\left(A\,(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.$$
$$\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\Big/$$
$$\left(-2\,(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.$$
$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2m,2m,2,3+2m,\right.\right.$$
$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$
$$m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)+$$

$$\Big(B\,(1+m)\,\text{AppellF1}\Big[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big/$$

$$\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2m,\,2m,\,2,\,3+2m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2m,\,1+2m,\,1,\,3+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\,1-$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big)\Big)\Big/$$

$$\Big(f\,(1+2m)\,\sqrt{a-a\,\text{Sin}[e+f x]}\,\Big(-\frac{1}{1+2m}\sqrt{2}\,m\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2m}$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big(2B\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]-\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2m}\right)+$$

$$\Big(A\,(1+m)\,\text{AppellF1}\Big[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\,1-$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big/$$

$$\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2m,\,2m,\,2,\,3+2m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2m,\,1+2m,\,1,\,3+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)+$$

$$\Big(B\,(1+m)\,\text{AppellF1}\Big[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\,1-$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big/$$

$$\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2m,\,2m,\,1,\,2+2m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2m,\,2m,\,2,\,3+2m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.$$
$$\left.\left.\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\right)+$$
$$\frac{1}{1+2m}\sqrt{2}\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{2m}\left(2B\left(-\frac{1}{2}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]-\right.\right.$$
$$\left.m\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{-1-2m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)-$$
$$\left(A(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),1-\right.\right.$$
$$\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)\Big/$$
$$\left(2\left(-2(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.\right.$$
$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2m,2m,2,3+2m,\right.\right.$$
$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$
$$m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.$$
$$\left.\left.\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\right)-$$
$$\left(B(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.$$
$$\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)\Big/$$
$$\left(2\left(-2(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.\right.$$
$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2m,2m,2,3+2m,\right.\right.$$
$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$
$$m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.$$
$$\left.\left.\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\right)-$$
$$\left(A(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.$$
$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]$$
$$\left.\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\Big/$$
$$\left(2\left(-2(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right),\right.\right.\right.$$
$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left.\right]+\left(\text{AppellF1}\left[2+2m,2m,2,3+2m,\right.\right.$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big)-$$

$$\Big(B\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big/$$

$$\Big(2\,\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big)+$$

$$\Big(A\,(1+m)\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big(-\frac{1}{2\,(2+2\,m)}\,(1+2\,m)\,\text{AppellF1}\Big[2+2\,m,$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}$$

$$m\,(1+2\,m)\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Big)$$

$$\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)\Big/\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big)+$$

$$\Big(B\,(1+m)\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big(-\frac{1}{2\,(2+2\,m)}\,(1+2\,m)\,\text{AppellF1}\Big[2+2\,m,$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}$$

$$m\,(1+2\,m)\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)$$

$$\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)\Bigg/\Bigg(-2\,(1+m)\,\mathrm{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\mathrm{AppellF1}\Big[2+2\,m,$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)-$$

$$\Bigg(A\,(1+m)\,\mathrm{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\mathrm{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)$$

$$\Bigg(\frac{1}{2}\Big(\mathrm{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+m\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-2\,(1+m)$$

$$\Bigg(-\frac{1}{2\,(2+2\,m)}(1+2\,m)\,\mathrm{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}m\,(1+2\,m)$$

$$\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-$$

$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)+$$

$$\left(-1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg(-\frac{1}{3+2\,m}(2+2\,m)\,\mathrm{AppellF1}\Big[3+2\,m,\,2\,m,$$

$$3,\,4+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2(3+2m)} m (2+2m)$$

$$\text{AppellF1}\left[3+2m, 1+2m, 2, 4+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+$$

$$m\left(-\frac{1}{2(3+2m)}(2+2m) \text{AppellF1}\left[3+2m, 1+2m, 2, 4+2m,\right.\right.$$

$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{4(3+2m)}$$

$$(1+2m)(2+2m) \text{AppellF1}\left[3+2m, 2+2m, 1, 4+2m,\right.$$

$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\left.\left.\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\right)\right)\right) \Big/$$

$$\left(-2(1+m) \text{AppellF1}\left[1+2m, 2m, 1, 2+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2m, 2m, 2, 3+2m,\right.\right.$$

$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$m \text{AppellF1}\left[2+2m, 1+2m, 1, 3+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$

$$\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)^2-$$

$$\left(B(1+m) \text{AppellF1}\left[1+2m, 2m, 1, 2+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)$$

$$\left(\frac{1}{2}\left(\text{AppellF1}\left[2+2m, 2m, 2, 3+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.\right.$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+m \text{AppellF1}\left[2+2m, 1+2m, 1, 3+2m,\right.$$

$$\left.\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-2(1+m)$$

$$\left(-\frac{1}{2(2+2m)}(1+2m) \text{AppellF1}\left[2+2m, 2m, 2, 3+2m,\right.\right.$$

$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2\,(2+2 m)} m\,(1+2 m)$$

$$\text{AppellF1}\left[2+2 m,1+2 m,1,3+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)+$$

$$\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\left(-\frac{1}{3+2 m}(2+2 m)\,\text{AppellF1}\left[3+2 m,2 m,\right.\right.$$

$$3,4+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2\,(3+2 m)} m\,(2+2 m)$$

$$\text{AppellF1}\left[3+2 m,1+2 m,2,4+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+$$

$$m\left(-\frac{1}{2\,(3+2 m)}(2+2 m)\,\text{AppellF1}\left[3+2 m,1+2 m,2,4+2 m,\right.\right.$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{4\,(3+2 m)}$$

$$(1+2 m)\,(2+2 m)\,\text{AppellF1}\left[3+2 m,2+2 m,1,4+2 m,\right.$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\left(-2\,(1+m)\,\text{AppellF1}\left[1+2 m,2 m,1,2+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2 m,2 m,2,3+2 m,\right.\right.$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg]+$$

$$m\,\text{AppellF1}\left[2+2 m,1+2 m,1,3+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$

$$\left.\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)^2\Bigg)\Bigg)\Bigg)$$

Problem 205: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int (a+a\,\text{Sin}[e+f x])^m\,(A+B\,\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])^{5/2}\,dx$$

Optimal (type 3, 275 leaves, 4 steps):

$$-\frac{64 c^3 (B (5-2 m)-A (7+2 m)) \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^m}{f (5+2 m) (7+2 m) (3+8 m+4 m^2) \sqrt{c-c \text{Sin}[e+f x]}}-\left(16 c^2 (B (5-2 m)-A (7+2 m)) \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^m \sqrt{c-c \text{Sin}[e+f x]}\right)\Big/\left(f (7+2 m) (15+16 m+4 m^2)\right)-\left(2 c (B (5-2 m)-A (7+2 m)) \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^m (c-c \text{Sin}[e+f x])^{3/2}\right)\Big/\left(f (5+2 m) (7+2 m)\right)-\frac{2 B \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^m (c-c \text{Sin}[e+f x])^{5/2}}{f (7+2 m)}$$

Result (type 3, 667 leaves):

$$\frac{1}{f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]-\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5} (a (1+\text{Sin}[e+f x]))^m (c-c \text{Sin}[e+f x])^{5/2}$$
$$\Bigg(\Big((2100 A-1575 B+1272 A m-110 B m+304 A m^2-68 B m^2+32 A m^3-8 B m^3)$$
$$\left(\left(\frac{1}{8}+\frac{i}{8}\right) \text{Cos}\left[\frac{1}{2} (e+f x)\right]+\left(\frac{1}{8}-\frac{i}{8}\right) \text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)\Big)\Big/$$
$$((1+2 m) (3+2 m) (5+2 m) (7+2 m))+$$
$$\Big((2100 A-1575 B+1272 A m-110 B m+304 A m^2-68 B m^2+32 A m^3-8 B m^3)$$
$$\left(\left(\frac{1}{8}-\frac{i}{8}\right) \text{Cos}\left[\frac{1}{2} (e+f x)\right]+\left(\frac{1}{8}+\frac{i}{8}\right) \text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)\Big)\Big/$$
$$((1+2 m) (3+2 m) (5+2 m) (7+2 m))+\Big((350 A-385 B+184 A m-104 B m+24 A m^2-12 B m^2)$$
$$\left(\left(\frac{1}{8}-\frac{i}{8}\right) \text{Cos}\left[\frac{3}{2} (e+f x)\right]-\left(\frac{1}{8}+\frac{i}{8}\right) \text{Sin}\left[\frac{3}{2} (e+f x)\right]\right)\Big)\Big/$$
$$((3+2 m) (5+2 m) (7+2 m))+\Big((350 A-385 B+184 A m-104 B m+24 A m^2-12 B m^2)$$
$$\left(\left(\frac{1}{8}+\frac{i}{8}\right) \text{Cos}\left[\frac{3}{2} (e+f x)\right]-\left(\frac{1}{8}-\frac{i}{8}\right) \text{Sin}\left[\frac{3}{2} (e+f x)\right]\right)\Big)\Big/((3+2 m) (5+2 m) (7+2 m))+$$
$$\Big((14 A-35 B+4 A m-6 B m) \left(\left(-\frac{1}{8}+\frac{i}{8}\right) \text{Cos}\left[\frac{5}{2} (e+f x)\right]-\left(\frac{1}{8}+\frac{i}{8}\right) \text{Sin}\left[\frac{5}{2} (e+f x)\right]\right)\Big)\Big/$$
$$((5+2 m) (7+2 m))+$$
$$\Big((14 A-35 B+4 A m-6 B m) \left(\left(-\frac{1}{8}-\frac{i}{8}\right) \text{Cos}\left[\frac{5}{2} (e+f x)\right]-\left(\frac{1}{8}-\frac{i}{8}\right) \text{Sin}\left[\frac{5}{2} (e+f x)\right]\right)\Big)\Big/$$
$$((5+2 m) (7+2 m))+\frac{\left(\frac{1}{8}-\frac{i}{8}\right) B \text{Cos}\left[\frac{7}{2} (e+f x)\right]-\left(\frac{1}{8}+\frac{i}{8}\right) B \text{Sin}\left[\frac{7}{2} (e+f x)\right]}{7+2 m}+$$
$$\frac{\left(\frac{1}{8}+\frac{i}{8}\right) B \text{Cos}\left[\frac{7}{2} (e+f x)\right]-\left(\frac{1}{8}-\frac{i}{8}\right) B \text{Sin}\left[\frac{7}{2} (e+f x)\right]}{7+2 m}\Bigg)$$

Problem 208: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int \frac{(a + a\,\text{Sin}[e + f\,x])^m\,(A + B\,\text{Sin}[e + f\,x])}{\sqrt{c - c\,\text{Sin}[e + f\,x]}}\,dx$$

Optimal (type 5, 118 leaves, 4 steps):

$$-\frac{2\,B\,\text{Cos}[e + f\,x]\,(a + a\,\text{Sin}[e + f\,x])^m}{f\,(1 + 2\,m)\,\sqrt{c - c\,\text{Sin}[e + f\,x]}} + \left((A + B)\,\text{Cos}[e + f\,x]\,\text{Hypergeometric2F1}\left[1, \frac{1}{2} + m, \frac{3}{2} + m, \frac{1}{2}\,(1 + \text{Sin}[e + f\,x])\right]\,(a + a\,\text{Sin}[e + f\,x])^m\right) \Big/ \left(f\,(1 + 2\,m)\,\sqrt{c - c\,\text{Sin}[e + f\,x]}\right)$$

Result (type 6, 7013 leaves):

$$-\Bigg(\Bigg(\sqrt{2}\,\left(\text{Cos}\left[\frac{1}{2}\,(e + f\,x)\right] - \text{Sin}\left[\frac{1}{2}\,(e + f\,x)\right]\right)$$

$$(a + a\,\text{Sin}[e + f\,x])^m\,\left(\frac{A\,\text{Cos}\left[\frac{1}{2}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^{2\,m}}{\text{Cos}\left[\frac{\pi}{4} + \frac{1}{2}\,\left(e - \frac{\pi}{2} + f\,x\right)\right] - \text{Sin}\left[\frac{\pi}{4} + \frac{1}{2}\,\left(e - \frac{\pi}{2} + f\,x\right)\right]} + \right.$$

$$\left.\frac{B\,\text{Cos}\left[\frac{1}{2}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^{2\,m}\,\text{Sin}[e + f\,x]}{\text{Cos}\left[\frac{\pi}{4} + \frac{1}{2}\,\left(e - \frac{\pi}{2} + f\,x\right)\right] - \text{Sin}\left[\frac{\pi}{4} + \frac{1}{2}\,\left(e - \frac{\pi}{2} + f\,x\right)\right]}\right)$$

$$\left(2\,B\,\left(\text{Cos}\left[\frac{1}{2}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right] - \text{Cos}\left[\frac{1}{2}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^{-2\,m}\right) + \right.$$

$$\left(A\,(1 + m)\,\text{AppellF1}\left[1 + 2\,m, 2\,m, 1, 2 + 2\,m, \frac{1}{2}\,\left(1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right),\right.\right.$$

$$\left.1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right]\,\text{Cot}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\,\left(1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right)\Bigg) \Big/$$

$$\left(-2\,(1 + m)\,\text{AppellF1}\left[1 + 2\,m, 2\,m, 1, 2 + 2\,m, \frac{1}{2}\,\left(1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right),\right.\right.$$

$$\left.1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right] + \left(\text{AppellF1}\left[2 + 2\,m, 2\,m, 2, 3 + 2\,m,\right.\right.$$

$$\left.\frac{1}{2}\,\left(1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right), 1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right] +$$

$$m\,\text{AppellF1}\left[2 + 2\,m, 1 + 2\,m, 1, 3 + 2\,m, \frac{1}{2}\,\left(1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right), 1 -\right.$$

$$\left.\left.\left.\text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right]\right)\,\left(-1 + \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right)\right) +$$

$$\left(B\,(1 + m)\,\text{AppellF1}\left[1 + 2\,m, 2\,m, 1, 2 + 2\,m, \frac{1}{2}\,\left(1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right),\right.\right.$$

$$\left.1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right]\,\text{Cot}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\,\left(1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right)\Bigg) \Big/$$

$$\left(-2\,(1 + m)\,\text{AppellF1}\left[1 + 2\,m, 2\,m, 1, 2 + 2\,m, \frac{1}{2}\,\left(1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right),\right.\right.$$

$$1 - \text{Tan}\left[\frac{1}{4}\,\left(-e + \frac{\pi}{2} - f\,x\right)\right]^2\right] + \left(\text{AppellF1}\left[2 + 2\,m, 2\,m, 2, 3 + 2\,m,\right.\right.$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] +$$

$$m\,\text{AppellF1}\Big[2+2m, 1+2m, 1, 3+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big)\Big)\Big/$$

$$\Big(f\,(1+2m)\sqrt{c-c\,\text{Sin}[e+f x]}\,\Big(-\frac{1}{1+2m}\sqrt{2}\,m\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2m}$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big(2B\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]-\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2m}\right)+$$

$$\Big(A\,(1+m)\,\text{AppellF1}\Big[1+2m, 2m, 1, 2+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big/$$

$$\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2m, 2m, 1, 2+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2m, 2m, 2, 3+2m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2m, 1+2m, 1, 3+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)+$$

$$\Big(B\,(1+m)\,\text{AppellF1}\Big[1+2m, 2m, 1, 2+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big/$$

$$\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2m, 2m, 1, 2+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2m, 2m, 2, 3+2m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2m, 1+2m, 1, 3+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big)+$$

$$\frac{1}{1+2m}\sqrt{2}\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m}\Big(2B\Big(-\frac{1}{2}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$m\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1-2m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big)-$$

$$\Big(A\,(1+m)\,\text{AppellF1}\Big[1+2m, 2m, 1, 2+2m, \frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right), 1-$$

$$\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]\ \text{Csc}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]\ \text{Sec}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]])\Big/$$

$$(2\ (-2\ (1+m)\ \text{AppellF1}[1+2\,m,\ 2\,m,\ 1,\ 2+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]+(\text{AppellF1}[2+2\,m,\ 2\,m,\ 2,\ 3+2\,m,$$

$$\tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),\ 1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]+$$

$$m\ \text{AppellF1}[2+2\,m,\ 1+2\,m,\ 1,\ 3+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2])\ (-1+\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2)))-$$

$$(B\ (1+m)\ \text{AppellF1}[1+2\,m,\ 2\,m,\ 1,\ 2+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]\ \text{Csc}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]\ \text{Sec}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]])\Big/$$

$$(2\ (-2\ (1+m)\ \text{AppellF1}[1+2\,m,\ 2\,m,\ 1,\ 2+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]+(\text{AppellF1}[2+2\,m,\ 2\,m,\ 2,\ 3+2\,m,$$

$$\tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),\ 1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]+$$

$$m\ \text{AppellF1}[2+2\,m,\ 1+2\,m,\ 1,\ 3+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2])\ (-1+\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2)))-$$

$$(A\ (1+m)\ \text{AppellF1}[1+2\,m,\ 2\,m,\ 1,\ 2+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]\ \text{Cot}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]$$

$$\text{Csc}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2))\Big/$$

$$(2\ (-2\ (1+m)\ \text{AppellF1}[1+2\,m,\ 2\,m,\ 1,\ 2+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]+(\text{AppellF1}[2+2\,m,\ 2\,m,\ 2,\ 3+2\,m,$$

$$\tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),\ 1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]+$$

$$m\ \text{AppellF1}[2+2\,m,\ 1+2\,m,\ 1,\ 3+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2])\ (-1+\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2)))-$$

$$(B\ (1+m)\ \text{AppellF1}[1+2\,m,\ 2\,m,\ 1,\ 2+2\,m,\ \tfrac{1}{2}\ (1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2),$$

$$1-\text{Tan}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]^2]\ \text{Cot}[\tfrac{1}{4}(-e+\tfrac{\pi}{2}-f\,x)]$$

$$\mathrm{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)\Bigg/$$

$$\Bigg(2\left(-2\,(1+m)\,\mathrm{AppellF1}\left[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\right.\right.$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\mathrm{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)\Bigg)+$$

$$\Bigg(A\,(1+m)\,\mathrm{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg(-\frac{1}{2\,(2+2\,m)}\,(1+2\,m)\,\mathrm{AppellF1}\Big[2+2\,m,$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}$$

$$m\,(1+2\,m)\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)$$

$$\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)\Bigg/\Bigg(-2\,(1+m)\,\mathrm{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\mathrm{AppellF1}\Big[2+2\,m,$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)+$$

$$\Bigg(B\,(1+m)\,\mathrm{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg(-\frac{1}{2\,(2+2\,m)}\,(1+2\,m)\,\mathrm{AppellF1}\Big[2+2\,m,$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}$$

$$m\,(1+2\,m)\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)$$

$$\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)\Bigg/\Bigg(-2\,(1+m)\,\mathrm{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2 m,\right.\right.$$

$$2 m,2,3+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$m\,\text{AppellF1}\left[2+2 m,1+2 m,1,3+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$

$$\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)-$$

$$\left(A\left(1+m\right)\text{AppellF1}\left[1+2 m,2 m,1,2+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)$$

$$\left(\frac{1}{2}\left(\text{AppellF1}\left[2+2 m,2 m,2,3+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.\right.\right.$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+m\,\text{AppellF1}\left[2+2 m,1+2 m,1,3+2 m,\right.$$

$$\left.\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-2\left(1+m\right)$$

$$\left(-\frac{1}{2\left(2+2 m\right)}\left(1+2 m\right)\text{AppellF1}\left[2+2 m,2 m,2,3+2 m,\right.\right.$$

$$\left.\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2\left(2+2 m\right)}m\left(1+2 m\right)$$

$$\text{AppellF1}\left[2+2 m,1+2 m,1,3+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\right.$$

$$\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)+$$

$$\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\left(-\frac{1}{3+2 m}\left(2+2 m\right)\text{AppellF1}\left[3+2 m,2 m,\right.\right.$$

$$\left.3,4+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2\left(3+2 m\right)}m\left(2+2 m\right)$$

$$\text{AppellF1}\left[3+2 m,1+2 m,2,4+2 m,\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),\right.$$

$$\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+$$

$$m\left(-\frac{1}{2\left(3+2 m\right)}\left(2+2 m\right)\text{AppellF1}\left[3+2 m,1+2 m,2,4+2 m,\right.\right.$$

$$\frac{1}{2}\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right),1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{4\,(3+2\,m)}$$

$$(1+2\,m)\,(2+2\,m)\,\mathrm{AppellF1}\Big[3+2\,m,\,2+2\,m,\,1,\,4+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg(-2\,(1+m)\,\mathrm{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\mathrm{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)^2-$$

$$\Bigg(B\,(1+m)\,\mathrm{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\mathrm{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)$$

$$\Bigg(\frac{1}{2}\Big(\mathrm{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),$$

$$1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+m\,\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-2\,(1+m)$$

$$\Bigg(-\frac{1}{2\,(2+2\,m)}(1+2\,m)\,\mathrm{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}m\,(1+2\,m)$$

$$\mathrm{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-$$

$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)+$$

$$\left(-1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg(-\frac{1}{3+2\,m}(2+2\,m)\,\mathrm{AppellF1}\Big[3+2\,m,\,2\,m,$$

$$3,\,4+2\,m,\,\frac{1}{2}\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right),\,1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]$$

$$\text{Sec}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\,\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]-\frac{1}{2\,(3+2\,m)}m\,(2+2\,m)$$

$$\text{AppellF1}\Big[3+2\,m,\,1+2\,m,\,2,\,4+2\,m,\,\tfrac{1}{2}\Big(1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big),$$

$$1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big]\,\text{Sec}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\,\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]+$$

$$m\,\Big(-\frac{1}{2\,(3+2\,m)}(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,1+2\,m,\,2,\,4+2\,m,$$

$$\tfrac{1}{2}\Big(1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big),\,1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big]$$

$$\text{Sec}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\,\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]-\frac{1}{4\,(3+2\,m)}$$

$$(1+2\,m)\,(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,2+2\,m,\,1,\,4+2\,m,$$

$$\tfrac{1}{2}\Big(1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big),\,1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big]$$

$$\text{Sec}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\,\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]\Big)\Big)\Big)\Big)\Big)\Big/$$

$$\Big(-2\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\tfrac{1}{2}\Big(1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big),$$

$$1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\tfrac{1}{2}\Big(1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big),\,1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\tfrac{1}{2}\Big(1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big),$$

$$1-\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big]\Big)\,\Big(-1+\text{Tan}\Big[\tfrac{1}{4}\big(-e+\tfrac{\pi}{2}-f\,x\big)\Big]^2\Big)^2\Big)\Big)\Big)\Big)$$

Problem 209: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f\,x])^m\,(A+B\,\text{Sin}[e+f\,x])}{(c-c\,\text{Sin}[e+f\,x])^{3/2}}\,dx$$

Optimal (type 5, 134 leaves, 4 steps):

$$\frac{(A+B)\,\text{Cos}[e+f\,x]\,(a+a\,\text{Sin}[e+f\,x])^m}{2\,f\,(c-c\,\text{Sin}[e+f\,x])^{3/2}}+$$

$$\Big(\big(A\,(1-2\,m)-B\,(3+2\,m)\big)\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\Big[1,\,\tfrac{1}{2}+m,\,\tfrac{3}{2}+m,\,\tfrac{1}{2}\,(1+\text{Sin}[e+f\,x])\Big]$$

$$(a+a\,\text{Sin}[e+f\,x])^m\Big)\Big/\Big(4\,c\,f\,(1+2\,m)\,\sqrt{c-c\,\text{Sin}[e+f\,x]}\Big)$$

Result (type 6, 14 818 leaves):

$$-\Bigg(\Bigg(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2m}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3$$

$$(a+a\,\text{Sin}[e+f x])^m\left(\frac{A\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m}}{\left(\text{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\text{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]\right)^3}+\right.$$

$$\left.\frac{B\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2m}\text{Sin}[e+f x]}{\left(\text{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\text{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]\right)^3}\right)\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2m}$$

$$\Bigg(-\Bigg(\Bigg(A\,\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\Big/$$

$$\Bigg(-m\Bigg(\text{AppellF1}\left[2,1-2m,2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\Big[2,-2m,1+2m,3,$$

$$\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Bigg)+\text{AppellF1}\Big[1,-2m,2m,2,$$

$$\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)-$$

$$\Bigg(B\,\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\Big/$$

$$\Bigg(-m\Bigg(\text{AppellF1}\left[2,1-2m,2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$\text{AppellF1}\left[2,-2m,1+2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)+$$

$$\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)+$$

$$\Bigg(A\,\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Big/$$

$$\Bigg(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-$$

$$m\Bigg(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)+\Bigg(B\,\text{AppellF1}\Big[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Big/$$

$$\Bigg(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-$$

$$m\left(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Bigg)-$$

$$\left(4A(1+m)\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\Big/$$

$$\Bigg((1+2m)\Bigg(-2(1+m)\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\Bigg(\text{AppellF1}\left[2+2m,2m,2,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\Bigg)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Bigg)\Bigg)+$$

$$\left(12B(1+m)\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\Big/$$

$$\Bigg((1+2m)\Bigg(-2(1+m)\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\Bigg(\text{AppellF1}\left[2+2m,2m,2,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\Bigg)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg(8\sqrt{2}\,f\,(c-c\,\text{Sin}[e+fx])^{3/2}\Bigg(\frac{1}{4\sqrt{2}}m\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{-1+2m}$$

$$\Bigg(-\left(\left(\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\Big/\left(2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\right)\right)-\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)}\Bigg)$$

$$\left(-\left(\left(A\,\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\Big/\left(-m\left(\text{AppellF1}\left[2,1-2m,2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)+\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)-\left(B\,\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\Big/\left(-m\left(\text{AppellF1}\left[2,1-2m,2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)+\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+\left(A\,\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big/\left(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-m\left(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+\left(B\,\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big/\left(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-m\left(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)-\left(4A\left(1+m\right)\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,1-\text{Tan}\left[\right.\right.$$

$$\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\left(-1+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\right)\Bigg)\Bigg/$$

$$\Bigg(\left(1+2 m\right)\,\Bigg(-2\left(1+m\right)\text{AppellF1}\Big[1+2 m,\,2 m,\,1,\,2+2 m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$1-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+\Bigg(\text{AppellF1}\Big[2+2 m,\,2 m,\,2,\,3+2 m,$$

$$\frac{1}{2}-\frac{1}{2}\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2 m,\,1+2 m,\,1,\,3+2 m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$1-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\Bigg)\left(-1+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\right)\Bigg)\Bigg)+$$

$$\Bigg(12\,B\,\left(1+m\right)\text{AppellF1}\Big[1+2 m,\,2 m,\,1,\,2+2 m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\,1-\text{Tan}\Big[$$

$$\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\left(-1+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\right)\Bigg)\Bigg/$$

$$\Bigg(\left(1+2 m\right)\,\Bigg(-2\left(1+m\right)\text{AppellF1}\Big[1+2 m,\,2 m,\,1,\,2+2 m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$1-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+\Bigg(\text{AppellF1}\Big[2+2 m,\,2 m,\,2,\,3+2 m,$$

$$\frac{1}{2}-\frac{1}{2}\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2 m,\,1+2 m,\,1,\,3+2 m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$1-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\Bigg)\left(-1+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\right)\Bigg)\Bigg)\Bigg)+$$

$$\frac{1}{8\sqrt{2}}\left(\frac{1-\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2}{1+\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2}\right)^{2 m}\Bigg(-\Bigg(\Bigg(A\,\Bigg(\frac{1}{2}m\,\text{AppellF1}\Big[2,\,1-2 m,\,2 m,\,3,$$

$$\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]$$

$$\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2+\frac{1}{2}m\,\text{AppellF1}\Big[2,\,-2 m,\,1+2 m,\,3,$$

$$\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]$$

$$\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Bigg)\Bigg)\Bigg/\Bigg(-m\,\Bigg(\text{AppellF1}\Big[2,\,1-2 m,\,2 m,\,3,$$

$$\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]+\text{AppellF1}\Big[2,$$

$$-2 m,\,1+2 m,\,3,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\Bigg)+$$

$$\text{AppellF1}\Big[1,\,-2 m,\,2 m,\,2,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2,$$

$$-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Big]\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]^2\Bigg)\Bigg)-$$

$$\left(B\left(\frac{1}{2}\,m\,\text{AppellF1}\left[2,1-2m,2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.$$

$$\left.-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2+$$

$$\frac{1}{2}\,m\,\text{AppellF1}\left[2,-2m,1+2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\Big/$$

$$\left(-m\left(\text{AppellF1}\left[2,1-2m,2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\right.\right.$$

$$\text{AppellF1}\left[2,-2m,1+2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)+\text{AppellF1}\left[1,-2m,2m,2,\right.$$

$$\left.\left.\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+$$

$$\left(A\,\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right.$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\Big/$$

$$\left(2\left(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-\right.\right.$$

$$m\left(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-\right.\right.\right.$$

$$\left.\left.\left.\left.\left.\left.f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)+$$

$$\left(B\,\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right.$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\Big/$$

$$\left(2\left(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-\right.\right.$$

$$m\left(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-\right.\right.\right.$$

$$\left.\left.\left.\left.\left.\left.f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)+$$

$$\left(A\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(-\frac{1}{2}\,m\,\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2}\,m\,\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big)\Big)\Big)\Big/$$

$$\Big(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-$$

$$m\Big(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$\text{AppellF1}\Big[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+$$

$$\Big(B\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big(-\frac{1}{2}m\,\text{AppellF1}\Big[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2}m\,\text{AppellF1}\Big[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big)\Big)\Big/$$

$$\Big(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-$$

$$m\Big(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$\text{AppellF1}\Big[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+$$

$$\Big(A\,\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\Big(-m\Big(\frac{4}{3}m\,\text{AppellF1}\Big[3,1-2m,1+2m,4,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2-$$

$$\frac{1}{3}(1-2m)\,\text{AppellF1}\Big[3,2-2m,2m,4,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2+$$

$$\frac{1}{3}(1+2m)\,\text{AppellF1}\Big[3,-2m,2+2m,4,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+$$

$$\frac{1}{2}\text{AppellF1}\left[1,-2m,2m,2,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\Big(\frac{1}{2}m\,\text{AppellF1}\Big[2,$$

$$1-2m,2m,3,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\,\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2+\frac{1}{2}\,m\,\text{AppellF1}\Big[2,$$

$$-2\,m,\,1+2\,m,\,3,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]$$

$$\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\,\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big)\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big)\Big)\Big/$$

$$\Big(-m\,\Big(\text{AppellF1}\Big[2,\,1-2\,m,\,2\,m,\,3,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]+$$

$$\text{AppellF1}\Big[2,\,-2\,m,\,1+2\,m,\,3,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\Big)+\text{AppellF1}\Big[1,\,-2\,m,\,2\,m,\,2,$$

$$\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big)^2+$$

$$\Big(B\,\text{AppellF1}\Big[1,\,-2\,m,\,2\,m,\,2,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]$$

$$\Big(-m\,\Big(\frac{4}{3}\,m\,\text{AppellF1}\Big[3,\,1-2\,m,\,1+2\,m,\,4,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\,\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2-$$

$$\frac{1}{3}\,(1-2\,m)\,\text{AppellF1}\Big[3,\,2-2\,m,\,2\,m,\,4,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\,\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2+$$

$$\frac{1}{3}\,(1+2\,m)\,\text{AppellF1}\Big[3,\,-2\,m,\,2+2\,m,\,4,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\,\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big)+$$

$$\frac{1}{2}\,\text{AppellF1}\Big[1,\,-2\,m,\,2\,m,\,2,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]$$

$$\text{Sec}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]+\Big(\frac{1}{2}\,m\,\text{AppellF1}\Big[2,$$

$$1-2\,m,\,2\,m,\,3,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]$$

$$\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\,\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2+\frac{1}{2}\,m\,\text{AppellF1}\Big[2,$$

$$-2\,m,\,1+2\,m,\,3,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]$$

$$\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\,\text{Csc}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big)\,\text{Tan}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big)\Big)\Big/$$

$$\Big(-m\,\Big(\text{AppellF1}\Big[2,\,1-2\,m,\,2\,m,\,3,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]+$$

$$\text{AppellF1}\Big[2,\,-2\,m,\,1+2\,m,\,3,\,\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,$$

$$-\text{Cot}\Big[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\Big)+\text{AppellF1}\Big[1,\,-2\,m,\,2\,m,\,2,$$

$$\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)^2-$$

$$\Big(A\,\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big(-\frac{1}{2}m\,\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2}m\,\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2}m\Big(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,\right.$$

$$\left.3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Big)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-m\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\Big(-\frac{4}{3}m\,\text{AppellF1}\left[3,1-2m,1+2m,4,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+$$

$$\frac{1}{3}(1-2m)\,\text{AppellF1}\left[3,2-2m,2m,4,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{3}(1+2m)\,\text{AppellF1}\left[3,-2m,2+2m,4,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\right.\right.$$

$$\left.\left.\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big)\Big)\Big)\Big/$$

$$\Big(\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]-$$

$$m\Big(\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[2,-2m,1+2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\right.\right.\right.$$

$$\left.\left.\left.\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Big)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)^2-$$

$$\Big(B\,\text{AppellF1}\left[1,-2m,2m,2,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big(-\frac{1}{2}m\,\text{AppellF1}\left[2,1-2m,2m,3,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2} m \,\text{AppellF1}\left[2, -2 m, 1+2 m, 3, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] -$$

$$\frac{1}{2} m \left(\text{AppellF1}\left[2, 1-2 m, 2 m, 3, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] + \text{AppellF1}\left[2, -2 m, 1+2 m, 3, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] - m \,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\left(-\frac{4}{3} m \,\text{AppellF1}\left[3, 1-2 m, 1+2 m, 4, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] +\right.$$

$$\frac{1}{3}(1-2 m) \,\text{AppellF1}\left[3, 2-2 m, 2 m, 4, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] -$$

$$\left.\left.\left.\frac{1}{3}(1+2 m) \,\text{AppellF1}\left[3, -2 m, 2+2 m, 4, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\right) \Big/$$

$$\left(\text{AppellF1}\left[1, -2 m, 2 m, 2, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] -\right.$$

$$m \left(\text{AppellF1}\left[2, 1-2 m, 2 m, 3, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] + \text{AppellF1}\left[2, -2 m, 1+2 m, 3, \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right) \left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2 -$$

$$\left(2 A (1+m) \,\text{AppellF1}\left[1+2 m, 2 m, 1, 2+2 m, \frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] \text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right) \Big/$$

$$\left((1+2 m) \left(-2 (1+m) \,\text{AppellF1}\left[1+2 m, 2 m, 1, 2+2 m, \frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] + \left(\text{AppellF1}\left[2+2 m, 2 m, 2, 3+2 m, \frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right] +\right.\right.\right.$$

$$\left.\left.m \,\text{AppellF1}\left[2+2 m, 1+2 m, 1, 3+2 m, \frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right) \left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right) +$$

$$\left(6\,B\,(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\Big/$$

$$\left((1+2m)\left(-2\,(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2m,2m,2,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)+$$

$$\left(2\,A\,(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\Big/$$

$$\left((1+2m)\left(-2\,(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2m,2m,2,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)-$$

$$\left(6\,B\,(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\text{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\Big/$$

$$\left((1+2m)\left(-2\,(1+m)\,\text{AppellF1}\left[1+2m,2m,1,2+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\left(\text{AppellF1}\left[2+2m,2m,2,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+m\,\text{AppellF1}\left[2+2m,1+2m,1,3+2m,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)-$$

$$\left(4\,A\,(1+m)\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(-\frac{1}{2\,(2+2\,m)}(1+2\,m)\,\text{AppellF1}\left[2+2\,m,\right.\right.\right.$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}$$

$$m\,(1+2\,m)\,\text{AppellF1}\left[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\Big/$$

$$\left(\left(1+2\,m\right)\left(-2\,(1+m)\,\text{AppellF1}\left[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$\left.\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)+$$

$$\left(12\,B\,(1+m)\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(-\frac{1}{2\,(2+2\,m)}(1+2\,m)\,\text{AppellF1}\left[2+2\,m,\right.\right.\right.$$

$$2\,m,\,2,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\,(2+2\,m)}$$

$$m\,(1+2\,m)\,\text{AppellF1}\left[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\right)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\Big/$$

$$\left(\left(1+2\,m\right)\left(-2\,(1+m)\,\text{AppellF1}\left[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,$$

$$\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$\left.\left.\left.1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)+$$

$$\Bigg(4\,A\,(1+m)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\Big(-1+\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big)$$

$$\Bigg(\frac{1}{2}\,\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Big)$$

$$\text{Sec}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]-2\,(1+m)$$

$$\Big(-\frac{1}{2\,(2+2\,m)}(1+2\,m)\,\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$

$$\text{Sec}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]-\frac{1}{2\,(2+2\,m)}m\,(1+2\,m)$$

$$\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]\Big)+$$

$$\Big(-1+\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big)\,\Big(-\frac{1}{3+2\,m}(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,2\,m,\,3,\,4+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$

$$\text{Sec}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]-\frac{1}{2\,(3+2\,m)}$$

$$m\,(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,1+2\,m,\,2,\,4+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]+$$

$$m\,\Big(-\frac{1}{2\,(3+2\,m)}(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,1+2\,m,\,2,\,4+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$

$$\text{Sec}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]-\frac{1}{4\,(3+2\,m)}$$

$$(1+2\,m)\,(2+2\,m)\,\text{AppellF1}\Big[3+2\,m,\,2+2\,m,\,1,\,4+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]$$

$$\text{Sec}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]\Big)\Big)\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\left(1+2\,m\right)\,\Bigg(-2\,\left(1+m\right)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]+m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\Big)\,\left(-1+\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\right)\Bigg)^2\Bigg)-\Bigg(12\,B\,\left(1+m\right)\,\text{AppellF1}\Big[1+2\,m,\,2\,m,\,1,\,2+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Cot}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\left(-1+\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\right)\,\Bigg(\frac{1}{2}\,\Big(\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]+m\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\Big)\,\text{Sec}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]-2\,\left(1+m\right)\,\Bigg(-\frac{1}{2\,\left(2+2\,m\right)}\left(1+2\,m\right)\,\text{AppellF1}\Big[2+2\,m,\,2\,m,\,2,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]-\frac{1}{2\,\left(2+2\,m\right)}m\,\left(1+2\,m\right)\,\text{AppellF1}\Big[2+2\,m,\,1+2\,m,\,1,\,3+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]\Bigg)+\left(-1+\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\right)\,\Bigg(-\frac{1}{3+2\,m}\left(2+2\,m\right)\,\text{AppellF1}\Big[3+2\,m,\,2\,m,\,3,\,4+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]-\frac{1}{2\,\left(3+2\,m\right)}m\,\left(2+2\,m\right)\,\text{AppellF1}\Big[3+2\,m,\,1+2\,m,\,2,\,4+2\,m,\,\frac{1}{2}-\frac{1}{2}\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2,\,1-\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\Big]\,\text{Sec}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^2\,\text{Tan}\Big[\frac{1}{4}\,\left(-e+\frac{\pi}{2}-f\,x\right)\Big]+m\,\Bigg(-\frac{1}{2\,\left(3+2\,m\right)}\left(2+2\,m\right)\,\text{AppellF1}\Big[3+2\,m,\,1+2\,m,\,2,\,4+2\,m,$$

$$\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{4\,(3+2\,m)}$$

$$(1+2\,m)\ (2+2\,m)\ \text{AppellF1}\Big[3+2\,m,\ 2+2\,m,\ 1,\ 4+2\,m,$$

$$\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg((1+2\,m)\ \Bigg(-2\,(1+m)\ \text{AppellF1}\Big[1+2\,m,\ 2\,m,\ 1,\ 2+2\,m,\ \frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\Big(\text{AppellF1}\Big[2+2\,m,\ 2\,m,\ 2,\ 3+2\,m,$$

$$\frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ 1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$m\,\text{AppellF1}\Big[2+2\,m,\ 1+2\,m,\ 1,\ 3+2\,m,\ \frac{1}{2}-\frac{1}{2}\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \left(-1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\Bigg)\Bigg)\Bigg)\Bigg)$$

Problem 210: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int \frac{(a+a\,\text{Sin}[e+f x])^m\ (A+B\,\text{Sin}[e+f x])}{(c-c\,\text{Sin}[e+f x])^{5/2}}\,dx$$

Optimal (type 5, 134 leaves, 4 steps):

$$\frac{(A+B)\ \text{Cos}[e+f x]\ (a+a\,\text{Sin}[e+f x])^m}{4\,f\,(c-c\,\text{Sin}[e+f x])^{5/2}}+$$

$$\Big((A\,(3-2\,m)-B\,(5+2\,m))\ \text{Cos}[e+f x]\ \text{Hypergeometric2F1}\Big[2,\ \frac{1}{2}+m,\ \frac{3}{2}+m,\ \frac{1}{2}\,(1+\text{Sin}[e+f x])\Big]$$

$$(a+a\,\text{Sin}[e+f x])^m\Big)\Big/\left(16\,c^2\,f\,(1+2\,m)\ \sqrt{c-c\,\text{Sin}[e+f x]}\right)$$

Result (type 6, 28 451 leaves): Display of huge result suppressed!

Problem 214: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int (a+a\,\text{Sin}[e+f x])^m\ (A+B\,\text{Sin}[e+f x])\ (c-c\,\text{Sin}[e+f x])^{-1-m}\,dx$$

Optimal (type 5, 163 leaves, 5 steps):

$$\frac{(A+B)\operatorname{Cos}[e+fx]\,(a+a\operatorname{Sin}[e+fx])^m\,(c-c\operatorname{Sin}[e+fx])^{-1-m}}{f\,(1+2m)}-\frac{1}{f\,(1+2m)}$$
$$2^{\frac{1}{2}-m}\,B\operatorname{Cos}[e+fx]\operatorname{Hypergeometric2F1}\left[\frac{1}{2}(1+2m),\frac{1}{2}(1+2m),\frac{1}{2}(3+2m),\frac{1}{2}(1+\operatorname{Sin}[e+fx])\right]$$
$$(1-\operatorname{Sin}[e+fx])^{\frac{1}{2}+m}\,(a+a\operatorname{Sin}[e+fx])^m\,(c-c\operatorname{Sin}[e+fx])^{-1-m}$$

Result (type 6, 6197 leaves):

$$-\Bigg(\Bigg(2^{-1-3m}\operatorname{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{-2m}\operatorname{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]$$
$$\left(\operatorname{Cos}\left[\frac{1}{2}(e+fx)\right]-\operatorname{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^{-2(-1-m)}(a+a\operatorname{Sin}[e+fx])^m\,(c-c\operatorname{Sin}[e+fx])^{-1-m}$$
$$\Bigg(A\operatorname{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{2m}\left(\operatorname{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+fx\right)\right]-\operatorname{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+fx\right)\right]\right)^{-2-2m}+$$
$$B\operatorname{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-fx\right)\right]^{2m}\operatorname{Sin}[e+fx]$$
$$\left(\operatorname{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+fx\right)\right]-\operatorname{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+fx\right)\right]\right)^{-2-2m}\Bigg)$$
$$\left(\frac{1}{1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{2m}\left(\frac{\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{-2m}$$
$$\Bigg(\Bigg(8B(-3+2m)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$
$$\left.-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(1-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^{2m}\Bigg)\Bigg/$$
$$\Bigg((-1+2m)\left(1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Bigg((-3+2m)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,\right.$$
$$\left.1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$
$$2\Bigg(2m\operatorname{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$
$$\left.-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\operatorname{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\right.$$
$$\left.\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\Bigg)\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Bigg)\Bigg)-$$
$$\frac{1}{-1+4m^2}(A+B)\Bigg((-1+2m)\operatorname{Hypergeometric2F1}\left[-\frac{1}{2}-m,-2m,\frac{1}{2}-m,\right.$$
$$\left.\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+(1+2m)\operatorname{Hypergeometric2F1}\left[\frac{1}{2}-m,\right.$$
$$\left.-2m,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Bigg)\Bigg)\Bigg/$$

$$\left(f\left(-2^{-3-3m}\operatorname{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(\frac{1}{1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{2m}\right.\right.$$

$$\left(\frac{\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{-2m}$$

$$\left(\left(8B(-3+2m)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.\right.$$

$$\left.\left.-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(1-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^{2m}\right)\Big/$$

$$\left((-1+2m)\left(1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\left((-3+2m)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,\right.\right.\right.$$

$$\left.1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\left(2m\operatorname{AppellF1}\left[\right.\right.$$

$$\left.\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$

$$\operatorname{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$

$$\left.\left.\left.\left.-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)-\frac{1}{-1+4m^2}$$

$$(A+B)\left((-1+2m)\operatorname{Hypergeometric2F1}\left[-\frac{1}{2}-m,-2m,\frac{1}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\right.$$

$$(1+2m)\operatorname{Hypergeometric2F1}\left[\frac{1}{2}-m,-2m,\frac{3}{2}-\right.$$

$$\left.\left.m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)-$$

$$2^{-1-3m}m\operatorname{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(\frac{1}{1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{1+2m}$$

$$\left(\frac{\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{-2m}$$

$$\left(\left(8B(-3+2m)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.\right.$$

$$\left.\left.-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(1-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^{2m}\right)\Big/$$

$$\left((-1+2m)\left(1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\left((-3+2m)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,\right.\right.\right.$$

$$\left.1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\left(2m\operatorname{AppellF1}\left[\right.\right.$$

$$\left.\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$

$$\operatorname{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)\Big)-\frac{1}{-1+4\,m^2}$$

$$(A+B)\,\Big(\left(-1+2\,m\right)\text{Hypergeometric2F1}\left[-\frac{1}{2}-m,\,-2\,m,\,\frac{1}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$

$$\left(1+2\,m\right)\text{Hypergeometric2F1}\Big[\frac{1}{2}-m,\,-2\,m,\,\frac{3}{2}-$$

$$m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)\Big)-$$

$$2^{-3\,m}\,m\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\left(\frac{1}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{2\,m}$$

$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{-1-2\,m}$$

$$\left(-\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2}+\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{4\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)}\right)$$

$$\Big(\Big(8\,B\left(-3+2\,m\right)\text{AppellF1}\Big[\frac{1}{2}-m,\,-2\,m,\,1,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{2\,m}\Big)\Big/$$

$$\Big(\left(-1+2\,m\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Big(\left(-3+2\,m\right)\text{AppellF1}\Big[\frac{1}{2}-m,\,-2\,m,$$

$$1,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+2\,\Big(2\,m\,\text{AppellF1}\Big[$$

$$\frac{3}{2}-m,\,1-2\,m,\,1,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{3}{2}-m,\,-2\,m,\,2,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Big)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)\Big)-\frac{1}{-1+4\,m^2}$$

$$(A+B)\,\Big(\left(-1+2\,m\right)\text{Hypergeometric2F1}\left[-\frac{1}{2}-m,\,-2\,m,\,\frac{1}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$

$$\left(1+2\,m\right)\text{Hypergeometric2F1}\Big[\frac{1}{2}-m,\,-2\,m,\,\frac{3}{2}-$$

$$m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big)\Big)+$$

$$2^{-1-3\,m}\,\text{Cot}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\left(\frac{1}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{2\,m}$$

$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{-2\,m}$$

$$\left(-\left(\left(4 B (-3+2 m) \text{AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.\right.$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^3\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{2 m}\right)\Big/$$
$$\left((-1+2 m)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\left((-3+2 m) \text{AppellF1}\left[\frac{1}{2}-m,\right.\right.\right.$$
$$-2 m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$
$$2\left(2 m \text{AppellF1}\left[\frac{3}{2}-m,1-2 m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\left[\frac{3}{2}-m,-2 m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\right.\right.\right.$$
$$\left.\left.\left.\left.\left.\left.\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)+$$
$$\left(4 B (-3+2 m) \text{AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$
$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{2 m}\right)\Big/$$
$$\left((-1+2 m)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\left((-3+2 m) \text{AppellF1}\left[\frac{1}{2}-m,-2 m,1,\right.\right.\right.$$
$$\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+2\left(2 m \text{AppellF1}\Big[\right.$$
$$\frac{3}{2}-m,1-2 m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$
$$\text{AppellF1}\left[\frac{3}{2}-m,-2 m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)+$$
$$\left(8 B (-3+2 m) \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\left(-\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right) m \text{AppellF1}\left[\frac{3}{2}-m,\right.\right.\right.$$
$$1-2 m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{2\left(\frac{3}{2}-m\right)}\left(\frac{1}{2}-m\right) \text{AppellF1}\Big[$$
$$\frac{3}{2}-m,-2 m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$
$$\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{2 m}\right)\Big/$$

$$\left((-1+2m)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\left((-3+2m)\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)-$$

$$\left(8Bm(-3+2m)\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^3\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^{-1+2m}\right)\Big/$$

$$\left((-1+2m)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\left((-3+2m)\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)-$$

$$\left(8B(-3+2m)\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^{2m}\right.$$

$$\left(\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]+(-3+2m)\left(-\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right)m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right.$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]-\frac{1}{2\left(\frac{3}{2}-m\right)}\left(\frac{1}{2}-m\right)\text{AppellF1}\Big[$$

$$\frac{3}{2}-m,\ -2m,\ 2,\ \frac{5}{2}-m,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg) + 2\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\Bigg(-\frac{1}{\frac{5}{2}-m}\left(\frac{3}{2}-m\right) m\,\mathrm{AppellF1}\Big[\frac{5}{2}-m,\ 1-2m,\ 2,\ \frac{7}{2}-m,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] -$$

$$\frac{1}{\frac{5}{2}-m}\left(\frac{3}{2}-m\right) \mathrm{AppellF1}\Big[\frac{5}{2}-m,\ -2m,\ 3,\ \frac{7}{2}-m,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] +$$

$$2m\Bigg(-\frac{1}{2\left(\frac{5}{2}-m\right)}\left(\frac{3}{2}-m\right) \mathrm{AppellF1}\Big[\frac{5}{2}-m,\ 1-2m,\ 2,\ \frac{7}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+$$

$$\frac{\pi}{2}-f x\Big)\Big]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] + \frac{1}{2\left(\frac{5}{2}-m\right)}(1-2m)\left(\frac{3}{2}-m\right) \mathrm{AppellF1}\Big[\frac{5}{2}-m,$$

$$2-2m,\ 1,\ \frac{7}{2}-m,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\left(-1+2m\right)\left(1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Bigg(\left(-3+2m\right) \mathrm{AppellF1}\Big[\frac{1}{2}-m,\ -2m,$$

$$1,\ \frac{3}{2}-m,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] +$$

$$2\Bigg(2m\,\mathrm{AppellF1}\Big[\frac{3}{2}-m,\ 1-2m,\ 1,\ \frac{5}{2}-m,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] + \mathrm{AppellF1}\Big[\frac{3}{2}-m,\ -2m,\ 2,\ \frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+$$

$$\frac{\pi}{2}-f x\Big)\Big]^2,\ -\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Bigg)\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg) -$$

$$\frac{1}{-1+4m^2}(A+B)\Bigg(\frac{1}{2}\left(1+2m\right) \mathrm{Hypergeometric2F1}\Big[\frac{1}{2}-m,\ -2m,\ \frac{3}{2}-m,$$

$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] +$$

$$\frac{1}{2}\left(-\frac{1}{2}-m\right)\left(-1+2m\right) \mathrm{Csc}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right] \mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]$$

$$\Bigg(-\mathrm{Hypergeometric2F1}\Big[-\frac{1}{2}-m,\ -2m,\ \frac{1}{2}-m,\ \mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big] +$$

$$\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{2 m}\right)+\frac{1}{2}\left(\frac{1}{2}-m\right)(1+2 m)\,\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$
$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(-\mathrm{Hypergeometric2F1}\left[\frac{1}{2}-m,-2 m,\frac{3}{2}-m,\right.\right.$$
$$\left.\left.\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\left(1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{2 m}\right)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)$$

Problem 215: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int(a+a\,\mathrm{Sin}[e+f x])^m(A+B\,\mathrm{Sin}[e+f x])(c-c\,\mathrm{Sin}[e+f x])^{-m}\,dx$$

Optimal (type 5, 158 leaves, 5 steps):

$$\frac{1}{f(1+2 m)}2^{\frac{1}{2}-m} c(A+2 B m)\,\mathrm{Cos}[e+f x]$$
$$\mathrm{Hypergeometric2F1}\left[\frac{1}{2}(1+2 m),\frac{1}{2}(1+2 m),\frac{1}{2}(3+2 m),\frac{1}{2}(1+\mathrm{Sin}[e+f x])\right]$$
$$(1-\mathrm{Sin}[e+f x])^{\frac{1}{2}+m}(a+a\,\mathrm{Sin}[e+f x])^m(c-c\,\mathrm{Sin}[e+f x])^{-1-m}-$$
$$\frac{B\,\mathrm{Cos}[e+f x](a+a\,\mathrm{Sin}[e+f x])^m(c-c\,\mathrm{Sin}[e+f x])^{-m}}{f}$$

Result (type 6, 15 390 leaves):

$$-\left(\left(2^{2-3 m}(-3+2 m)\,\mathrm{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2 m}\right.\right.$$
$$\left(\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^{2 m}(a+a\,\mathrm{Sin}[e+f x])^m(c-c\,\mathrm{Sin}[e+f x])^{-m}$$
$$\left(A\,\mathrm{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2 m}\left(\mathrm{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\mathrm{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]\right)^{-2 m}+\right.$$
$$B\,\mathrm{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{2 m}\mathrm{Sin}[e+f x]$$
$$\left.\left(\mathrm{Cos}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]-\mathrm{Sin}\left[\frac{\pi}{4}+\frac{1}{2}\left(e-\frac{\pi}{2}+f x\right)\right]\right)^{-2 m}\right)$$
$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(\frac{\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]}{1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{-2 m}\left(\frac{1-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2 m}$$
$$\left(-\left(\left(A\,\mathrm{AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right.\right.\right.$$
$$\left.\left(1+\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\Big/\left((-3+2 m)\right.$$
$$\mathrm{AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,1,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,\,-2\,m,\,2,\,\frac{5}{2}-m,\right.$$

$$\left.\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)-$$

$$\left(B\,\text{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,1,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right.$$

$$\left.\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2\right)\Big/\left(\left(-3+2\,m\right)\right.$$

$$\text{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,1,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$

$$2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,1,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,\,-2\,m,\,2,\,\frac{5}{2}-m,\right.$$

$$\left.\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)+$$

$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,2,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right.$$

$$\left.\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\Big/\left(\left(-3+2\,m\right)\right.$$

$$\text{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,2,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$

$$4\left(m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,2,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,\,-2\,m,\,3,\,\frac{5}{2}-m,\right.$$

$$\left.\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)-$$

$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,3,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\Big/$$

$$\left(\left(-3+2\,m\right)\,\text{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,3,\,\frac{3}{2}-m,\right.\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$

$$2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,3,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+3\,\text{AppellF1}\left[\frac{3}{2}-m,\,-2\,m,\,4,\,\frac{5}{2}-m,\right.$$

$$\left.\left.\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)\Big/$$

$$\left(f\left(-1+2\,m\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^3\left(-\frac{1}{\left(-1+2\,m\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^4}\right.\right.$$

$$3\times 2^{1-3m}\left(-3+2m\right)\operatorname{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2$$

$$\left(\frac{\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{-2m}\left(\frac{1-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}{1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{2m}$$

$$\Bigg(-\Bigg(\Bigg(A\,\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\Bigg)\Bigg/\Bigg(\left(-3+2m\right)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$

$$2\left(2m\operatorname{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\operatorname{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Bigg)\Bigg)-$$

$$\Bigg(B\,\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\Bigg)\Bigg/\Bigg(\left(-3+2m\right)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2$$

$$\left(2m\operatorname{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\operatorname{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Bigg)+$$

$$\Bigg(8B\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,2,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(1+\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\Bigg)\Bigg/$$

$$\Bigg(\left(-3+2m\right)\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,2,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+4\left(m\operatorname{AppellF1}\left[\frac{3}{2}-m,1-2m,2,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\operatorname{AppellF1}\left[\frac{3}{2}-m,-2m,3,\frac{5}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)$$

$$\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\Bigg)-\Bigg(8B\operatorname{AppellF1}\left[\frac{1}{2}-m,-2m,3,\frac{3}{2}-m,\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\operatorname{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\Bigg)\Bigg/\Bigg(\left(-3+2m\right)\operatorname{AppellF1}\Big[$$

$$\frac{1}{2}-m,\ -2m,\ 3,\ \frac{3}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2$$

$$\left(2 m\, \text{AppellF1}\left[\frac{3}{2}-m,\ 1-2m,\ 3,\ \frac{5}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+3\,\text{AppellF1}\left[\frac{3}{2}-m,\ -2m,\ 4,\ \frac{5}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\right.\right.\right.$$

$$\left.\left.\left.\left.\left.\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)+$$

$$\frac{1}{(-1+2m)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^3}\,2^{-3m}(-3+2m)\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2$$

$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{-2m}$$

$$\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2m}$$

$$\left(-\left(\left(A\,\text{AppellF1}\left[\frac{1}{2}-m,\ -2m,\ 1,\ \frac{3}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\Big/$$

$$\left(\left(-3+2m\right)\text{AppellF1}\left[\frac{1}{2}-m,\ -2m,\ 1,\ \frac{3}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,\ 1-2m,\ 1,\right.\right.$$

$$\left.\frac{5}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$\text{AppellF1}\left[\frac{3}{2}-m,\ -2m,\ 2,\ \frac{5}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)-$$

$$\left(B\,\text{AppellF1}\left[\frac{1}{2}-m,\ -2m,\ 1,\ \frac{3}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right.$$

$$\left.\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\Big/\left(\left(-3+2m\right)\text{AppellF1}\left[\frac{1}{2}-m,\ -2m,\right.\right.$$

$$\left.1,\ \frac{3}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$2\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,\ 1-2m,\ 1,\ \frac{5}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,\ -2m,\ 2,\ \frac{5}{2}-m,\right.$$

$$\left.\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+$$

$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}-m,\ -2m,\ 2,\ \frac{3}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg)\Bigg/\Bigg(\left(-3+2\,m\right)\,\text{AppellF1}\Big[$$

$$\frac{1}{2}-m,\,-2\,m,\,2,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$4\,\Bigg(m\,\text{AppellF1}\Big[\frac{3}{2}-m,\,1-2\,m,\,2,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2}-m,\,-2\,m,\,3,\,\frac{5}{2}-m,$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Bigg)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)-$$

$$\Bigg(8\,B\,\text{AppellF1}\Big[\frac{1}{2}-m,\,-2\,m,\,3,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Bigg)\Bigg/\Bigg(\left(-3+2\,m\right)\,\text{AppellF1}\Big[\frac{1}{2}-m,\,-2\,m,\,3,\,\frac{3}{2}-m,$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+2\,\Bigg(2\,m\,\text{AppellF1}\Big[\frac{3}{2}-m,$$

$$1-2\,m,\,3,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$3\,\text{AppellF1}\Big[\frac{3}{2}-m,\,-2\,m,\,4,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\Bigg)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)\Bigg)-$$

$$\frac{1}{\left(-1+2\,m\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^3}\,2^{3-3\,m}\,m\,\left(-3+2\,m\right)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{-1-2\,m}$$

$$\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{2\,m}$$

$$\left(-\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2}+\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{4\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)}\right)$$

$$\Bigg(-\Bigg(\Bigg(A\,\text{AppellF1}\Big[\frac{1}{2}-m,\,-2\,m,\,1,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2\Bigg)\Bigg/$$

$$\Bigg(\left(-3+2\,m\right)\,\text{AppellF1}\Big[\frac{1}{2}-m,\,-2\,m,\,1,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+2\,\Bigg(2\,m\,\text{AppellF1}\Big[\frac{3}{2}-m,\,1-2\,m,\,1,$$

$$\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+$$

$$\text{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)-$$

$$\left(B\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right.$$

$$\left.\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2\right)\Big/\left(\left(-3+2m\right)\text{AppellF1}\left[\frac{1}{2}-m,-2m,\right.\right.$$

$$\left.1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$

$$2\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\right.$$

$$\left.\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)+$$

$$\left(8B\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,2,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)\Big/\left(\left(-3+2m\right)\text{AppellF1}\left[\right.\right.$$

$$\left.\frac{1}{2}-m,-2m,2,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$

$$4\left(m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2m,3,\frac{5}{2}-m,\right.$$

$$\left.\left.\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)-$$

$$\left(8B\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,3,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\Big/\left(\left(-3+2m\right)\text{AppellF1}\left[\frac{1}{2}-m,-2m,3,\frac{3}{2}-m,\right.\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,\right.\right.$$

$$\left.1-2m,3,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+$$

$$3\,\text{AppellF1}\left[\frac{3}{2}-m,-2m,4,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)\right)+$$

$$\frac{1}{\left(-1+2m\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^3}2^{3-3m}m\left(-3+2m\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]$$

$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2}\right)^{-2m}$$

$$\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{-1+2 m}$$

$$\left(-\left(\left(\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\Big/\left(2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\right)-\frac{\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]}{2\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)}\right)$$

$$\left(-\left(\left(\text{A AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\Big/\left(\left(-3+2 m\right)\text{AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2 m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2 m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2 m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)-\right.$$

$$\left(\text{B AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\right)\Big/\left(\left(-3+2 m\right)\text{AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2 m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2 m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2 m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)+$$

$$\left(8\,\text{B AppellF1}\left[\frac{1}{2}-m,-2 m,2,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\Big/\left(\left(-3+2 m\right)\text{AppellF1}\left[\frac{1}{2}-m,-2 m,2,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+4\left(m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2 m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2 m,3,\frac{5}{2}-m,\right.\right.\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)-$$

$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,3,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\Big/\left(\left(-3+2m\right)\text{AppellF1}\left[\frac{1}{2}-m,-2m,3,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,3,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+3\,\text{AppellF1}\left[\frac{3}{2}-m,-2m,4,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)+$$

$$\frac{1}{\left(-1+2m\right)\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^3}2^{2-3m}\left(-3+2m\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]$$

$$\left(\frac{\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{-2m}$$

$$\left(\frac{1-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\right)^{2m}$$

$$\Bigg(-\Bigg(\Bigg(A\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Bigg)\Big/\left(\left(-3+2m\right)\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,-2m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Bigg)-$$

$$\left(B\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\Big/$$

$$\Bigg(\left(-3+2m\right)\text{AppellF1}\left[\frac{1}{2}-m,-2m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\Bigg(2m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,1,\right.$$

$$\frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+$$

$$\mathrm{AppellF1}\Big[\frac{3}{2}-m,\ -2\,m,\ 2,\ \frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Big)\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big)-$$

$$\Bigg(A\,\Bigg(-\frac{1}{\frac{3}{2}-m}\Big(\frac{1}{2}-m\Big)\,m\,\mathrm{AppellF1}\Big[\frac{3}{2}-m,\ 1-2\,m,\ 1,\ \frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\ \mathrm{Sec}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]-$$

$$\frac{1}{2\left(\frac{3}{2}-m\right)}\Big(\frac{1}{2}-m\Big)\ \mathrm{AppellF1}\Big[\frac{3}{2}-m,\ -2\,m,\ 2,\ \frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\ \mathrm{Sec}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]\Bigg)$$

$$\Big(1+\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big)^2\Bigg)\Big/\ \Big(\big(-3+2\,m\big)\ \mathrm{AppellF1}\Big[\frac{1}{2}-m,\ -2\,m,$$

$$1,\ \frac{3}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+$$

$$2\,\Big(2\,m\,\mathrm{AppellF1}\Big[\frac{3}{2}-m,\ 1-2\,m,\ 1,\ \frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+\mathrm{AppellF1}\Big[\frac{3}{2}-m,\ -2\,m,\ 2,\ \frac{5}{2}-m,$$

$$\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\Big)\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big)-$$

$$\Bigg(B\,\Bigg(-\frac{1}{\frac{3}{2}-m}\Big(\frac{1}{2}-m\Big)\,m\,\mathrm{AppellF1}\Big[\frac{3}{2}-m,\ 1-2\,m,\ 1,\ \frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\ \mathrm{Sec}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]-$$

$$\frac{1}{2\left(\frac{3}{2}-m\right)}\Big(\frac{1}{2}-m\Big)\ \mathrm{AppellF1}\Big[\frac{3}{2}-m,\ -2\,m,\ 2,\ \frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]\ \mathrm{Sec}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]\Bigg)$$

$$\Big(1+\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big)^2\Bigg)\Big/\ \Big(\big(-3+2\,m\big)\ \mathrm{AppellF1}\Big[\frac{1}{2}-m,\ -2\,m,$$

$$1,\ \frac{3}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,\ -\mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2\Big]+$$

$$2\,\Big(2\,m\,\mathrm{AppellF1}\Big[\frac{3}{2}-m,\ 1-2\,m,\ 1,\ \frac{5}{2}-m,\ \mathrm{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-f\,x\Big)\Big]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2}-m,\,-2m,\,2,\,\frac{5}{2}-m,$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+$$

$$\Big(4\,B\,\text{AppellF1}\Big[\frac{1}{2}-m,\,-2m,\,2,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big)\Big/$$

$$\Big(\left(-3+2m\right)\,\text{AppellF1}\Big[\frac{1}{2}-m,\,-2m,\,2,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+4\,\Big(m\,\text{AppellF1}\Big[\frac{3}{2}-m,\,1-2m,\,2,$$

$$\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{3}{2}-m,\,-2m,\,3,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)+$$

$$\Big(8\,B\,\Big(-\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right)\,m\,\text{AppellF1}\Big[\frac{3}{2}-m,\,1-2m,\,2,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right)\,\text{AppellF1}\Big[\frac{3}{2}-m,\,-2m,\,3,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Big)$$

$$\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\Big)\Big/\Big(\left(-3+2m\right)\,\text{AppellF1}\Big[\frac{1}{2}-m,\,-2m,$$

$$2,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$4\,\Big(m\,\text{AppellF1}\Big[\frac{3}{2}-m,\,1-2m,\,2,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+\text{AppellF1}\Big[\frac{3}{2}-m,\,-2m,\,3,\,\frac{5}{2}-m,$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big)-$$

$$\Big(8\,B\,\Big(-\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right)\,m\,\text{AppellF1}\Big[\frac{3}{2}-m,\,1-2m,\,3,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2\left(\frac{3}{2}-m\right)}3\,\left(\frac{1}{2}-m\right)\,\text{AppellF1}\Big[\frac{3}{2}-m,\,-2m,\,4,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\left(-3+2 m\right) \text{AppellF1}\left[\frac{1}{2}-m,-2 m,3,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\Bigg(2 m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2 m,3,\right.$$
$$\left.\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$
$$3\,\text{AppellF1}\left[\frac{3}{2}-m,-2 m,4,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)+$$

$$\Bigg(A\,\text{AppellF1}\left[\frac{1}{2}-m,-2 m,1,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\Bigg(\Bigg(2 m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2 m,1,\frac{5}{2}-m,\right.$$
$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,\right.$$
$$\left.-2 m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\left(-3+2 m\right)$$
$$\Bigg(-\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right) m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2 m,1,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$
$$\frac{1}{2\left(\frac{3}{2}-m\right)}\left(\frac{1}{2}-m\right)\text{AppellF1}\left[\frac{3}{2}-m,-2 m,2,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)+$$

$$2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg(-\frac{1}{\frac{5}{2}-m}\left(\frac{3}{2}-m\right) m\,\text{AppellF1}\left[\frac{5}{2}-m,1-2 m,\right.$$
$$\left.2,\frac{7}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$
$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{\frac{5}{2}-m}$$
$$\left(\frac{3}{2}-m\right)\text{AppellF1}\left[\frac{5}{2}-m,-2 m,3,\frac{7}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+$$

$$2\,m\left(-\frac{1}{2\left(\frac{5}{2}-m\right)}\left(\frac{3}{2}-m\right)\text{AppellF1}\left[\frac{5}{2}-m,\,1-2\,m,\,2,\,\frac{7}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-\right.\right.\right.\right.$$

$$\left.f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\right.$$

$$\left.\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\frac{1}{2\left(\frac{5}{2}-m\right)}(1-2\,m)\left(\frac{3}{2}-m\right)\text{AppellF1}\left[\frac{5}{2}-m,\right.$$

$$2-2\,m,\,1,\,\frac{7}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]$$

$$\left.\left.\left.\left.\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\right)\right)\right)\right)\right)\Big/$$

$$\left(\left(-3+2\,m\right)\text{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,1,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,1,\right.\right.$$

$$\left.\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+$$

$$\text{AppellF1}\left[\frac{3}{2}-m,\,-2\,m,\,2,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2+$$

$$\left(B\,\text{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,1,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right.$$

$$\left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\left(\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,1,\,\frac{5}{2}-m,\right.\right.\right.$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+\text{AppellF1}\left[\frac{3}{2}-m,\right.$$

$$\left.\left.-2\,m,\,2,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+\left(-3+2\,m\right)$$

$$\left(-\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right)m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,1,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\,\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-$$

$$\frac{1}{2\left(\frac{3}{2}-m\right)}\left(\frac{1}{2}-m\right)\text{AppellF1}\left[\frac{3}{2}-m,\,-2\,m,\,2,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)+$$

$$2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \Bigg(-\frac{1}{\frac{5}{2}-m}\left(\frac{3}{2}-m\right) m\,\text{AppellF1}\Big[\frac{5}{2}-m,\ 1-2m,$$

$$2,\ \frac{7}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{\frac{5}{2}-m}$$

$$\left(\frac{3}{2}-m\right)\text{AppellF1}\Big[\frac{5}{2}-m,\ -2m,\ 3,\ \frac{7}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]+$$

$$2m\Bigg(-\frac{1}{2\left(\frac{5}{2}-m\right)}\left(\frac{3}{2}-m\right)\text{AppellF1}\Big[\frac{5}{2}-m,\ 1-2m,\ 2,\ \frac{7}{2}-m,\ \text{Tan}\Big[\frac{1}{4}\Big(-e+\frac{\pi}{2}-$$

$$f x\Big)\Big]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\Big[$$

$$\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\Big]+\frac{1}{2\left(\frac{5}{2}-m\right)}(1-2m)\left(\frac{3}{2}-m\right)\text{AppellF1}\Big[\frac{5}{2}-m,$$

$$2-2m,\ 1,\ \frac{7}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg((-3+2m)\,\text{AppellF1}\Big[\frac{1}{2}-m,\ -2m,\ 1,\ \frac{3}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+2\Big(2m\,\text{AppellF1}\Big[\frac{3}{2}-m,\ 1-2m,\ 1,$$

$$\frac{5}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\ -\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]+$$

$$\text{AppellF1}\Big[\frac{3}{2}-m,\ -2m,\ 2,\ \frac{5}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\Big)\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)^2-$$

$$\Bigg(8B\,\text{AppellF1}\Big[\frac{1}{2}-m,\ -2m,\ 2,\ \frac{3}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Big]\ \left(1+\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)$$

$$\Bigg(2\Big(m\,\text{AppellF1}\Big[\frac{3}{2}-m,\ 1-2m,\ 2,\ \frac{5}{2}-m,\ \text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,$$

$$-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Big]+\mathrm{AppellF1}\left[\frac{3}{2}-m,\,-2\,m,\,3,\right.$$

$$\left.\frac{5}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\Big)$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+(-3+2\,m)$$

$$\Bigg(-\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right)m\,\mathrm{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,2,\,\frac{5}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-$$

$$\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right)\mathrm{AppellF1}\left[\frac{3}{2}-m,\,-2\,m,\,3,\,\frac{5}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)+$$

$$4\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg(-\frac{1}{\frac{5}{2}-m}\left(\frac{3}{2}-m\right)m\,\mathrm{AppellF1}\left[\frac{5}{2}-m,\,1-2\,m,\right.$$

$$\left.3,\,\frac{7}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]-\frac{1}{2\left(\frac{5}{2}-m\right)}$$

$$3\left(\frac{3}{2}-m\right)\mathrm{AppellF1}\left[\frac{5}{2}-m,\,-2\,m,\,4,\,\frac{7}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+$$

$$m\Bigg(-\frac{1}{\frac{5}{2}-m}\left(\frac{3}{2}-m\right)\mathrm{AppellF1}\left[\frac{5}{2}-m,\,1-2\,m,\,3,\,\frac{7}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2$$

$$\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]+\frac{1}{2\left(\frac{5}{2}-m\right)}(1-2\,m)\left(\frac{3}{2}-m\right)\mathrm{AppellF1}\left[\frac{5}{2}-m,\right.$$

$$\left.2-2\,m,\,2,\,\frac{7}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]$$

$$\mathrm{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg((-3+2\,m)\,\mathrm{AppellF1}\left[\frac{1}{2}-m,\,-2\,m,\,2,\,\frac{3}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+4\Bigg(m\,\mathrm{AppellF1}\left[\frac{3}{2}-m,\,1-2\,m,\,2,\right.$$

$$\left.\frac{5}{2}-m,\,\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,-\mathrm{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]+$$

$$\text{AppellF1}\left[\frac{3}{2}-m,\,-2m,\,3,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$

$$\left.\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right)^2+$$

$$\left(8\,B\,\text{AppellF1}\left[\frac{1}{2}-m,\,-2m,\,3,\,\frac{3}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\left(\left(2\,m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2m,\,3,\,\frac{5}{2}-m,\right.\right.\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]+3\,\text{AppellF1}\left[\frac{3}{2}-m,\right.$$

$$\left.\left.-2m,\,4,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\right)$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]+(-3+2m)$$

$$\left(-\frac{1}{\frac{3}{2}-m}\left(\frac{1}{2}-m\right)m\,\text{AppellF1}\left[\frac{3}{2}-m,\,1-2m,\,3,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]-$$

$$\frac{1}{2\left(\frac{3}{2}-m\right)}3\left(\frac{1}{2}-m\right)\text{AppellF1}\left[\frac{3}{2}-m,\,-2m,\,4,\,\frac{5}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.$$

$$\left.\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)+$$

$$2\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\left(2\,m\left(-\frac{1}{2\left(\frac{5}{2}-m\right)}3\left(\frac{3}{2}-m\right)\text{AppellF1}\left[\frac{5}{2}-m,\right.\right.\right.$$

$$\left.1-2m,\,4,\,\frac{7}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]$$

$$\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]+$$

$$\frac{1}{2\left(\frac{5}{2}-m\right)}(1-2m)\left(\frac{3}{2}-m\right)\text{AppellF1}\left[\frac{5}{2}-m,\,2-2m,\,3,\,\frac{7}{2}-m,\right.$$

$$\left.\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]$$

$$\left.\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]\right)+3$$

$$\left(-\frac{1}{\frac{5}{2}-m}\left(\frac{3}{2}-m\right)m\,\text{AppellF1}\left[\frac{5}{2}-m,\,1-2m,\,4,\,\frac{7}{2}-m,\,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2,\right.\right.$$

$$\left.-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-fx\right)\right]^2$$

$$\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]-\frac{1}{\frac{5}{2}-m}2\left(\frac{3}{2}-m\right)\text{AppellF1}\left[\frac{5}{2}-m,-2m,5,\frac{7}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\text{Sec}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]\Bigg)\Bigg)\Bigg)\Bigg)\Bigg/$$

$$\Bigg(\Bigg((-3+2m)\,\text{AppellF1}\left[\frac{1}{2}-m,-2m,3,\frac{3}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+2\Bigg(2m\,\text{AppellF1}\left[\frac{3}{2}-m,1-2m,3,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]+3\,\text{AppellF1}\left[\frac{3}{2}-m,-2m,4,\frac{5}{2}-m,\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,-\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right]\Bigg)\text{Tan}\left[\frac{1}{4}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)^2\Bigg)\Bigg)\Bigg)\Bigg)$$

Problem 216: Attempted integration timed out after 120 seconds.

$$\int(a+a\,\text{Sin}[e+f x])^m\,(A+B\,\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])^{1-m}\,dx$$

Optimal (type 5, 170 leaves, 5 steps):

$$\frac{1}{f(1+2m)}2^{\frac{1}{2}-m}c^2\,(2A-B(1-2m))\,\text{Cos}[e+f x]\,\text{Hypergeometric2F1}\left[\frac{1}{2}(-1+2m),\frac{1}{2}(1+2m),\frac{1}{2}(3+2m),\frac{1}{2}(1+\text{Sin}[e+f x])\right](1-\text{Sin}[e+f x])^{\frac{1}{2}+m}(a+a\,\text{Sin}[e+f x])^m(c-c\,\text{Sin}[e+f x])^{-1-m}-\frac{B\,\text{Cos}[e+f x]\,(a+a\,\text{Sin}[e+f x])^m\,(c-c\,\text{Sin}[e+f x])^{1-m}}{2f}$$

Result (type 1, 1 leaves):

???

Problem 217: Result unnecessarily involves higher level functions and more than twice size of optimal antiderivative.

$$\int(a+a\,\text{Sin}[e+f x])^m\,(A+B\,\text{Sin}[e+f x])\,(c-c\,\text{Sin}[e+f x])^{2-m}\,dx$$

Optimal (type 5, 173 leaves, 5 steps):

$$\frac{1}{3\,f\,(1+2\,m)}2^{\frac{5}{2}-m}\,c^3\,(3\,A-2\,B\,(1-m))\,\mathrm{Cos}[e+f\,x]\;\mathrm{Hypergeometric2F1}\left[\frac{1}{2}\,(-3+2\,m),\,\frac{1}{2}\,(1+2\,m),\,\frac{1}{2}\,(3+2\,m),\,\frac{1}{2}\,(1+\mathrm{Sin}[e+f\,x])\right]\,(1-\mathrm{Sin}[e+f\,x])^{\frac{1}{2}+m}\,(a+a\,\mathrm{Sin}[e+f\,x])^m\,(c-c\,\mathrm{Sin}[e+f\,x])^{-1-m}-\frac{B\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^m\,(c-c\,\mathrm{Sin}[e+f\,x])^{2-m}}{3\,f}$$

Result (type 6, 37 061 leaves) : Display of huge result suppressed!

Problem 232: Result more than twice size of optimal antiderivative.

$$\int \mathrm{Csc}[c+d\,x]^5\,(a+a\,\mathrm{Sin}[c+d\,x])^3\,(A-A\,\mathrm{Sin}[c+d\,x])\,dx$$

Optimal (type 3, 86 leaves, 10 steps) :

$$\frac{5\,a^3\,A\,\mathrm{ArcTanh}[\mathrm{Cos}[c+d\,x]]}{8\,d}-\frac{2\,a^3\,A\,\mathrm{Cot}[c+d\,x]^3}{3\,d}-\frac{3\,a^3\,A\,\mathrm{Cot}[c+d\,x]\,\mathrm{Csc}[c+d\,x]}{8\,d}-\frac{a^3\,A\,\mathrm{Cot}[c+d\,x]\,\mathrm{Csc}[c+d\,x]^3}{4\,d}$$

Result (type 3, 210 leaves) :

$$a^3\,A\left(\frac{\mathrm{Cot}\left[\frac{1}{2}\,(c+d\,x)\right]}{3\,d}-\frac{3\,\mathrm{Csc}\left[\frac{1}{2}\,(c+d\,x)\right]^2}{32\,d}-\frac{\mathrm{Cot}\left[\frac{1}{2}\,(c+d\,x)\right]\,\mathrm{Csc}\left[\frac{1}{2}\,(c+d\,x)\right]^2}{12\,d}-\frac{\mathrm{Csc}\left[\frac{1}{2}\,(c+d\,x)\right]^4}{64\,d}+\frac{5\,\mathrm{Log}\left[\mathrm{Cos}\left[\frac{1}{2}\,(c+d\,x)\right]\right]}{8\,d}-\frac{5\,\mathrm{Log}\left[\mathrm{Sin}\left[\frac{1}{2}\,(c+d\,x)\right]\right]}{8\,d}+\frac{3\,\mathrm{Sec}\left[\frac{1}{2}\,(c+d\,x)\right]^2}{32\,d}+\frac{\mathrm{Sec}\left[\frac{1}{2}\,(c+d\,x)\right]^4}{64\,d}-\frac{\mathrm{Tan}\left[\frac{1}{2}\,(c+d\,x)\right]}{3\,d}+\frac{\mathrm{Sec}\left[\frac{1}{2}\,(c+d\,x)\right]^2\,\mathrm{Tan}\left[\frac{1}{2}\,(c+d\,x)\right]}{12\,d}\right)$$

Problem 233: Result more than twice size of optimal antiderivative.

$$\int \mathrm{Csc}[c+d\,x]^6\,(a+a\,\mathrm{Sin}[c+d\,x])^3\,(A-A\,\mathrm{Sin}[c+d\,x])\,dx$$

Optimal (type 3, 105 leaves, 12 steps) :

$$\frac{a^3\,A\,\mathrm{ArcTanh}[\mathrm{Cos}[c+d\,x]]}{4\,d}-\frac{2\,a^3\,A\,\mathrm{Cot}[c+d\,x]^3}{3\,d}-\frac{a^3\,A\,\mathrm{Cot}[c+d\,x]^5}{5\,d}+\frac{a^3\,A\,\mathrm{Cot}[c+d\,x]\,\mathrm{Csc}[c+d\,x]}{4\,d}-\frac{a^3\,A\,\mathrm{Cot}[c+d\,x]\,\mathrm{Csc}[c+d\,x]^3}{2\,d}$$

Result (type 3, 268 leaves) :

$$a^3 A \left(\frac{7 \operatorname{Cot}\left[\frac{1}{2}(c+d x)\right]}{30 d}+\frac{\operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^2}{16 d}-\frac{19 \operatorname{Cot}\left[\frac{1}{2}(c+d x)\right] \operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^2}{480 d}-\frac{\operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^4}{32 d}-\frac{\operatorname{Cot}\left[\frac{1}{2}(c+d x)\right] \operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^4}{160 d}+\frac{\operatorname{Log}\left[\operatorname{Cos}\left[\frac{1}{2}(c+d x)\right]\right]}{4 d}-\frac{\operatorname{Log}\left[\operatorname{Sin}\left[\frac{1}{2}(c+d x)\right]\right]}{4 d}-\frac{\operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^2}{16 d}+\frac{\operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^4}{32 d}-\frac{7 \operatorname{Tan}\left[\frac{1}{2}(c+d x)\right]}{30 d}+\frac{19 \operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^2 \operatorname{Tan}\left[\frac{1}{2}(c+d x)\right]}{480 d}+\frac{\operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^4 \operatorname{Tan}\left[\frac{1}{2}(c+d x)\right]}{160 d}\right)$$

Problem 234: Result more than twice size of optimal antiderivative.

$$\int \operatorname{Csc}[c+d x]^7 (a+a \operatorname{Sin}[c+d x])^3 (A-A \operatorname{Sin}[c+d x]) \, dx$$

Optimal (type 3, 130 leaves, 12 steps):

$$\frac{3 a^3 A \operatorname{ArcTanh}[\operatorname{Cos}[c+d x]]}{16 d}-\frac{2 a^3 A \operatorname{Cot}[c+d x]^3}{3 d}-\frac{2 a^3 A \operatorname{Cot}[c+d x]^5}{5 d}+\frac{3 a^3 A \operatorname{Cot}[c+d x] \operatorname{Csc}[c+d x]}{16 d}-\frac{5 a^3 A \operatorname{Cot}[c+d x] \operatorname{Csc}[c+d x]^3}{24 d}-\frac{a^3 A \operatorname{Cot}[c+d x] \operatorname{Csc}[c+d x]^5}{6 d}$$

Result (type 3, 306 leaves):

$$a^3 A \left(\frac{2 \operatorname{Cot}\left[\frac{1}{2}(c+d x)\right]}{15 d}+\frac{3 \operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^2}{64 d}+\frac{\operatorname{Cot}\left[\frac{1}{2}(c+d x)\right] \operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^2}{240 d}-\frac{\operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^4}{64 d}-\frac{\operatorname{Cot}\left[\frac{1}{2}(c+d x)\right] \operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^4}{80 d}-\frac{\operatorname{Csc}\left[\frac{1}{2}(c+d x)\right]^6}{384 d}+\frac{3 \operatorname{Log}\left[\operatorname{Cos}\left[\frac{1}{2}(c+d x)\right]\right]}{16 d}-\frac{3 \operatorname{Log}\left[\operatorname{Sin}\left[\frac{1}{2}(c+d x)\right]\right]}{16 d}-\frac{3 \operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^2}{64 d}+\frac{\operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^4}{64 d}+\frac{\operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^6}{384 d}-\frac{2 \operatorname{Tan}\left[\frac{1}{2}(c+d x)\right]}{15 d}-\frac{\operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^2 \operatorname{Tan}\left[\frac{1}{2}(c+d x)\right]}{240 d}+\frac{\operatorname{Sec}\left[\frac{1}{2}(c+d x)\right]^4 \operatorname{Tan}\left[\frac{1}{2}(c+d x)\right]}{80 d}\right)$$

Problem 236: Result more than twice size of optimal antiderivative.

$$\int \frac{\operatorname{Sin}[c+d x]^3 (A-A \operatorname{Sin}[c+d x])}{(a+a \operatorname{Sin}[c+d x])^3} \, dx$$

Optimal (type 3, 103 leaves, 9 steps):

$$\frac{4 A x}{a^3}+\frac{A \operatorname{Cos}[c+d x]}{a^3 d}+\frac{2 A \operatorname{Cos}[c+d x]}{5 a^3 d (1+\operatorname{Sin}[c+d x])^3}-\frac{31 A \operatorname{Cos}[c+d x]}{15 a^3 d (1+\operatorname{Sin}[c+d x])^2}+\frac{104 A \operatorname{Cos}[c+d x]}{15 a^3 d (1+\operatorname{Sin}[c+d x])}$$

Result (type 3, 228 leaves):

$$-\frac{1}{120 a^3 d \left(\operatorname{Cos}\left[\frac{c}{2}\right]+\operatorname{Sin}\left[\frac{c}{2}\right]\right)\left(\operatorname{Cos}\left[\frac{1}{2}(c+d x)\right]+\operatorname{Sin}\left[\frac{1}{2}(c+d x)\right]\right)^5} A \left(-1200 d x \operatorname{Cos}\left[\frac{d x}{2}\right]+1665 \operatorname{Cos}\left[c+\frac{d x}{2}\right]-1675 \operatorname{Cos}\left[c+\frac{3 d x}{2}\right]+600 d x \operatorname{Cos}\left[2 c+\frac{3 d x}{2}\right]+120 d x \operatorname{Cos}\left[2 c+\frac{5 d x}{2}\right]+75 \operatorname{Cos}\left[3 c+\frac{5 d x}{2}\right]+15 \operatorname{Cos}\left[3 c+\frac{7 d x}{2}\right]+2495 \operatorname{Sin}\left[\frac{d x}{2}\right]-1200 d x \operatorname{Sin}\left[c+\frac{d x}{2}\right]-600 d x \operatorname{Sin}\left[c+\frac{3 d x}{2}\right]+405 \operatorname{Sin}\left[2 c+\frac{3 d x}{2}\right]-491 \operatorname{Sin}\left[2 c+\frac{5 d x}{2}\right]+120 d x \operatorname{Sin}\left[3 c+\frac{5 d x}{2}\right]+15 \operatorname{Sin}\left[4 c+\frac{7 d x}{2}\right]\right)$$

Problem 237: Result more than twice size of optimal antiderivative.

$$\int \frac{\operatorname{Sin}[c+d x]^2 (A-A \operatorname{Sin}[c+d x])}{(a+a \operatorname{Sin}[c+d x])^3} \, dx$$

Optimal (type 3, 89 leaves, 8 steps):

$$-\frac{A x}{a^3}-\frac{2 A \operatorname{Cos}[c+d x]}{5 a^3 d (1+\operatorname{Sin}[c+d x])^3}+\frac{7 A \operatorname{Cos}[c+d x]}{5 a^3 d (1+\operatorname{Sin}[c+d x])^2}-\frac{13 A \operatorname{Cos}[c+d x]}{5 a^3 d (1+\operatorname{Sin}[c+d x])}$$

Result (type 3, 189 leaves):

$$\left(A \left(-50 d x \operatorname{Cos}\left[\frac{d x}{2}\right]+110 \operatorname{Cos}\left[c+\frac{d x}{2}\right]-90 \operatorname{Cos}\left[c+\frac{3 d x}{2}\right]+25 d x \operatorname{Cos}\left[2 c+\frac{3 d x}{2}\right]+5 d x \operatorname{Cos}\left[2 c+\frac{5 d x}{2}\right]+150 \operatorname{Sin}\left[\frac{d x}{2}\right]-50 d x \operatorname{Sin}\left[c+\frac{d x}{2}\right]-25 d x \operatorname{Sin}\left[c+\frac{3 d x}{2}\right]+40 \operatorname{Sin}\left[2 c+\frac{3 d x}{2}\right]-26 \operatorname{Sin}\left[2 c+\frac{5 d x}{2}\right]+5 d x \operatorname{Sin}\left[3 c+\frac{5 d x}{2}\right]\right)\right) \Big/ \left(20 a^3 d \left(\operatorname{Cos}\left[\frac{c}{2}\right]+\operatorname{Sin}\left[\frac{c}{2}\right]\right)\left(\operatorname{Cos}\left[\frac{1}{2}(c+d x)\right]+\operatorname{Sin}\left[\frac{1}{2}(c+d x)\right]\right)^5\right)$$

Problem 240: Result more than twice size of optimal antiderivative.

$$\int \frac{\operatorname{Csc}[c+d x] (A-A \operatorname{Sin}[c+d x])}{(a+a \operatorname{Sin}[c+d x])^3} \, dx$$

Optimal (type 3, 98 leaves, 9 steps):

$$-\frac{A\,\text{ArcTanh}[\text{Cos}[c+d\,x]]}{a^3\,d}+\frac{2\,A\,\text{Cos}[c+d\,x]}{5\,a^3\,d\,(1+\text{Sin}[c+d\,x])^3}+\frac{3\,A\,\text{Cos}[c+d\,x]}{5\,a^3\,d\,(1+\text{Sin}[c+d\,x])^2}+\frac{8\,A\,\text{Cos}[c+d\,x]}{5\,a^3\,d\,(1+\text{Sin}[c+d\,x])}$$

Result (type 3, 313 leaves):

$$\Bigg(\Bigg(\Bigg(\text{Cos}\left[\frac{1}{2}(c+d\,x)\right]+\text{Sin}\left[\frac{1}{2}(c+d\,x)\right]\Bigg)\Bigg(2\,\text{Cos}\left[\frac{c}{2}\right]-2\,\text{Sin}\left[\frac{c}{2}\right]+3\,\text{Cos}\left[\frac{c}{2}\right]\left(\text{Cos}\left[\frac{1}{2}(c+d\,x)\right]+\text{Sin}\left[\frac{1}{2}(c+d\,x)\right]\right)^2-3\,\text{Sin}\left[\frac{c}{2}\right]\left(\text{Cos}\left[\frac{1}{2}(c+d\,x)\right]+\text{Sin}\left[\frac{1}{2}(c+d\,x)\right]\right)^2-5\,\text{Log}\left[\text{Cos}\left[\frac{1}{2}(c+d\,x)\right]\right]\left(\text{Cos}\left[\frac{c}{2}\right]+\text{Sin}\left[\frac{c}{2}\right]\right)\left(\text{Cos}\left[\frac{1}{2}(c+d\,x)\right]+\text{Sin}\left[\frac{1}{2}(c+d\,x)\right]\right)^4+5\,\text{Log}\left[\text{Sin}\left[\frac{1}{2}(c+d\,x)\right]\right]\left(\text{Cos}\left[\frac{c}{2}\right]+\text{Sin}\left[\frac{c}{2}\right]\right)\left(\text{Cos}\left[\frac{1}{2}(c+d\,x)\right]+\text{Sin}\left[\frac{1}{2}(c+d\,x)\right]\right)^4\Bigg)+2\,\text{Sin}\left[\frac{d\,x}{2}\right]\left(-17+4\,\text{Cos}[2\,(c+d\,x)]-19\,\text{Sin}[c+d\,x]\right)\Bigg)\left(A-A\,\text{Sin}[c+d\,x]\right)\Bigg)\Big/\left(5\,a^3\,d\left(\text{Cos}\left[\frac{c}{2}\right]+\text{Sin}\left[\frac{c}{2}\right]\right)\left(\text{Cos}\left[\frac{1}{2}(c+d\,x)\right]-\text{Sin}\left[\frac{1}{2}(c+d\,x)\right]\right)^2\left(\text{Cos}\left[\frac{1}{2}(c+d\,x)\right]+\text{Sin}\left[\frac{1}{2}(c+d\,x)\right]\right)^5\right)$$

Problem 241: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Csc}[c+d\,x]^2\,(A-A\,\text{Sin}[c+d\,x])}{(a+a\,\text{Sin}[c+d\,x])^3}\,dx$$

Optimal (type 3, 113 leaves, 15 steps):

$$\frac{4\,A\,\text{ArcTanh}[\text{Cos}[c+d\,x]]}{a^3\,d}-\frac{A\,\text{Cot}[c+d\,x]}{a^3\,d}-\frac{2\,A\,\text{Cot}[c+d\,x]}{5\,a^3\,d\,(1+\text{Csc}[c+d\,x])^3}+\frac{31\,A\,\text{Cot}[c+d\,x]}{15\,a^3\,d\,(1+\text{Csc}[c+d\,x])^2}-\frac{104\,A\,\text{Cot}[c+d\,x]}{15\,a^3\,d\,(1+\text{Csc}[c+d\,x])}$$

Result (type 3, 252 leaves):

$$\frac{1}{a^3}A\left(-\frac{\text{Cot}\left[\frac{1}{2}(c+dx)\right]}{2d}+\frac{4\,\text{Log}\left[\text{Cos}\left[\frac{1}{2}(c+dx)\right]\right]}{d}-\frac{4\,\text{Log}\left[\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right]}{d}+\frac{4\,\text{Sin}\left[\frac{1}{2}(c+dx)\right]}{5d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)^5}-\frac{2}{5d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)^4}+\frac{38\,\text{Sin}\left[\frac{1}{2}(c+dx)\right]}{15d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)^3}-\frac{19}{15d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)^2}+\frac{158\,\text{Sin}\left[\frac{1}{2}(c+dx)\right]}{15d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)}+\frac{\text{Tan}\left[\frac{1}{2}(c+dx)\right]}{2d}\right)$$

Problem 242: Result more than twice size of optimal antiderivative.

$$\int\frac{\text{Csc}[c+dx]^3\,(A-A\,\text{Sin}[c+dx])}{(a+a\,\text{Sin}[c+dx])^3}\,dx$$

Optimal (type 3, 138 leaves, 13 steps):

$$-\frac{19\,A\,\text{ArcTanh}[\text{Cos}[c+dx]]}{2a^3d}+\frac{4\,A\,\text{Cot}[c+dx]}{a^3d}-\frac{A\,\text{Cot}[c+dx]\,\text{Csc}[c+dx]}{2a^3d}+\frac{2\,A\,\text{Cos}[c+dx]}{5a^3d\,(1+\text{Sin}[c+dx])^3}+\frac{29\,A\,\text{Cos}[c+dx]}{15a^3d\,(1+\text{Sin}[c+dx])^2}+\frac{164\,A\,\text{Cos}[c+dx]}{15a^3d\,(1+\text{Sin}[c+dx])}$$

Result (type 3, 290 leaves):

$$\frac{1}{a^3}A\left(\frac{2\,\text{Cot}\left[\frac{1}{2}(c+dx)\right]}{d}-\frac{\text{Csc}\left[\frac{1}{2}(c+dx)\right]^2}{8d}-\frac{19\,\text{Log}\left[\text{Cos}\left[\frac{1}{2}(c+dx)\right]\right]}{2d}+\frac{19\,\text{Log}\left[\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right]}{2d}+\frac{\text{Sec}\left[\frac{1}{2}(c+dx)\right]^2}{8d}-\frac{4\,\text{Sin}\left[\frac{1}{2}(c+dx)\right]}{5d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)^5}+\frac{2}{5d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)^4}-\frac{58\,\text{Sin}\left[\frac{1}{2}(c+dx)\right]}{15d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)^3}+\frac{29}{15d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)^2}-\frac{328\,\text{Sin}\left[\frac{1}{2}(c+dx)\right]}{15d\left(\text{Cos}\left[\frac{1}{2}(c+dx)\right]+\text{Sin}\left[\frac{1}{2}(c+dx)\right]\right)}-\frac{2\,\text{Tan}\left[\frac{1}{2}(c+dx)\right]}{d}\right)$$

Problem 243: Result more than twice size of optimal antiderivative.

$$\int \frac{\text{Csc}[c+d x]^4 \left(A-A \,\text{Sin}[c+d x]\right)}{\left(a+a \,\text{Sin}[c+d x]\right)^3} \, dx$$

Optimal (type 3, 153 leaves, 15 steps):

$$\frac{18 A \,\text{ArcTanh}[\text{Cos}[c+d x]]}{a^3 d}-\frac{10 A \,\text{Cot}[c+d x]}{a^3 d}-\frac{A \,\text{Cot}[c+d x]^3}{3 a^3 d}+\frac{2 A \,\text{Cot}[c+d x] \,\text{Csc}[c+d x]}{a^3 d}-\frac{2 A \,\text{Cos}[c+d x]}{5 a^3 d \left(1+\text{Sin}[c+d x]\right)^3}-\frac{13 A \,\text{Cos}[c+d x]}{5 a^3 d \left(1+\text{Sin}[c+d x]\right)^2}-\frac{93 A \,\text{Cos}[c+d x]}{5 a^3 d \left(1+\text{Sin}[c+d x]\right)}$$

Result (type 3, 348 leaves):

$$\frac{1}{a^3} A \left(-\frac{29 \,\text{Cot}\left[\frac{1}{2} (c+d x)\right]}{6 d}+\frac{\text{Csc}\left[\frac{1}{2} (c+d x)\right]^2}{2 d}-\frac{\text{Cot}\left[\frac{1}{2} (c+d x)\right] \text{Csc}\left[\frac{1}{2} (c+d x)\right]^2}{24 d}+\frac{18 \,\text{Log}\left[\text{Cos}\left[\frac{1}{2} (c+d x)\right]\right]}{d}-\frac{18 \,\text{Log}\left[\text{Sin}\left[\frac{1}{2} (c+d x)\right]\right]}{d}-\frac{\text{Sec}\left[\frac{1}{2} (c+d x)\right]^2}{2 d}+\frac{4 \,\text{Sin}\left[\frac{1}{2} (c+d x)\right]}{5 d \left(\text{Cos}\left[\frac{1}{2} (c+d x)\right]+\text{Sin}\left[\frac{1}{2} (c+d x)\right]\right)^5}-\frac{2}{5 d \left(\text{Cos}\left[\frac{1}{2} (c+d x)\right]+\text{Sin}\left[\frac{1}{2} (c+d x)\right]\right)^4}+\frac{26 \,\text{Sin}\left[\frac{1}{2} (c+d x)\right]}{5 d \left(\text{Cos}\left[\frac{1}{2} (c+d x)\right]+\text{Sin}\left[\frac{1}{2} (c+d x)\right]\right)^3}-\frac{13}{5 d \left(\text{Cos}\left[\frac{1}{2} (c+d x)\right]+\text{Sin}\left[\frac{1}{2} (c+d x)\right]\right)^2}+\frac{186 \,\text{Sin}\left[\frac{1}{2} (c+d x)\right]}{5 d \left(\text{Cos}\left[\frac{1}{2} (c+d x)\right]+\text{Sin}\left[\frac{1}{2} (c+d x)\right]\right)}+\frac{29 \,\text{Tan}\left[\frac{1}{2} (c+d x)\right]}{6 d}+\frac{\text{Sec}\left[\frac{1}{2} (c+d x)\right]^2 \text{Tan}\left[\frac{1}{2} (c+d x)\right]}{24 d}\right)$$

Problem 248: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{\left(a+a \,\text{Sin}[e+f x]\right) \left(A+B \,\text{Sin}[e+f x]\right)}{c+d \,\text{Sin}[e+f x]} \, dx$$

Optimal (type 3, 98 leaves, 6 steps):

$$-\frac{a \left(B c-(A+B) d\right) x}{d^2}+\frac{2 a (c-d) (B c-A d) \,\text{ArcTan}\left[\frac{d+c \,\text{Tan}\left[\frac{1}{2} (e+f x)\right]}{\sqrt{c^2-d^2}}\right]}{d^2 \sqrt{c^2-d^2} \, f}-\frac{a B \,\text{Cos}[e+f x]}{d f}$$

Result (type 3, 196 leaves):

$$\left(a \left(A\,d\,x + B\,(-c+d)\,x - \frac{B\,d\,\mathrm{Cos}[e]\,\mathrm{Cos}[f\,x]}{f} + \left(2\,(c-d)\,(B\,c-A\,d)\,\mathrm{ArcTan}\left[\frac{\mathrm{Sec}\left[\frac{f\,x}{2}\right]\,(\mathrm{Cos}[e]-\mathrm{i}\,\mathrm{Sin}[e])\,\left(d\,\mathrm{Cos}\left[e+\frac{f\,x}{2}\right]+c\,\mathrm{Sin}\left[\frac{f\,x}{2}\right]\right)}{\sqrt{c^2-d^2}\,\sqrt{(\mathrm{Cos}[e]-\mathrm{i}\,\mathrm{Sin}[e])^2}}\right]\,(\mathrm{Cos}[e]-\mathrm{i}\,\mathrm{Sin}[e])\right)\Big/\left(\sqrt{c^2-d^2}\,f\,\sqrt{(\mathrm{Cos}[e]-\mathrm{i}\,\mathrm{Sin}[e])^2}\right) + \frac{B\,d\,\mathrm{Sin}[e]\,\mathrm{Sin}[f\,x]}{f}\right)\,(1+\mathrm{Sin}[e+f\,x])\right)\Big/\left(d^2\,\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2\right)$$

Problem 249: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a+a\,\mathrm{Sin}[e+f\,x])\,(A+B\,\mathrm{Sin}[e+f\,x])}{(c+d\,\mathrm{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 3, 124 leaves, 6 steps):

$$\frac{a\,B\,x}{d^2} + \frac{2\,a\,\left((A+B)\,(c-d)\,d^2 - B\,c\,(c^2-d^2)\right)\,\mathrm{ArcTan}\left[\frac{d+c\,\mathrm{Tan}\left[\frac{1}{2}\,(e+f\,x)\right]}{\sqrt{c^2-d^2}}\right]}{d^2\,(c^2-d^2)^{3/2}\,f} + \frac{a\,(B\,c-A\,d)\,\mathrm{Cos}[e+f\,x]}{d\,(c+d)\,f\,(c+d\,\mathrm{Sin}[e+f\,x])}$$

Result (type 3, 217 leaves):

$$\left(a\,(1+\mathrm{Sin}[e+f\,x])\,\left(B\,x + \left(2\,\left(A\,d^2 - B\,(c^2+c\,d-d^2)\right)\,\mathrm{ArcTan}\left[\frac{\mathrm{Sec}\left[\frac{f\,x}{2}\right]\,(\mathrm{Cos}[e]-\mathrm{i}\,\mathrm{Sin}[e])\,\left(d\,\mathrm{Cos}\left[e+\frac{f\,x}{2}\right]+c\,\mathrm{Sin}\left[\frac{f\,x}{2}\right]\right)}{\sqrt{c^2-d^2}\,\sqrt{(\mathrm{Cos}[e]-\mathrm{i}\,\mathrm{Sin}[e])^2}}\right]\,(\mathrm{Cos}[e]-\mathrm{i}\,\mathrm{Sin}[e])\right)\Big/\left((c+d)\,\sqrt{c^2-d^2}\,f\,\sqrt{(\mathrm{Cos}[e]-\mathrm{i}\,\mathrm{Sin}[e])^2}\right) + \frac{(-B\,c+A\,d)\,\mathrm{Csc}[e]\,(c\,\mathrm{Cos}[e]+d\,\mathrm{Sin}[f\,x])}{(c+d)\,f\,(c+d\,\mathrm{Sin}[e+f\,x])}\right)\right)\Big/\left(d^2\,\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2\right)$$

Problem 250: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(a+a\,\mathrm{Sin}[e+f\,x])\,(A+B\,\mathrm{Sin}[e+f\,x])}{(c+d\,\mathrm{Sin}[e+f\,x])^3}\,dx$$

Optimal (type 3, 176 leaves, 7 steps):

$$\frac{a\,(2\,A\,c+B\,c-A\,d-2\,B\,d)\,\text{ArcTan}\left[\frac{d+c\,\text{Tan}\left[\frac{1}{2}\,(e+f\,x)\right]}{\sqrt{c^2-d^2}}\right]}{(c+d)\,\left(c^2-d^2\right)^{3/2}\,f}+\frac{a\,(B\,c-A\,d)\,\text{Cos}[e+f\,x]}{2\,d\,(c+d)\,f\,(c+d\,\text{Sin}[e+f\,x])^2}-\frac{a\,\left(A\,(c-2\,d)\,d+B\,\left(c^2+2\,c\,d-2\,d^2\right)\right)\,\text{Cos}[e+f\,x]}{2\,(c-d)\,d\,(c+d)^2\,f\,(c+d\,\text{Sin}[e+f\,x])}$$

Result (type 3, 345 leaves):

$$\left(a\,(1+\text{Sin}[e+f\,x])\left(\left(4\,(2\,A\,c+B\,c-A\,d-2\,B\,d)\,\text{ArcTan}\left[\frac{\text{Sec}\left[\frac{f\,x}{2}\right]\,(\text{Cos}[e]-i\,\text{Sin}[e])\,\left(d\,\text{Cos}\left[e+\frac{f\,x}{2}\right]+c\,\text{Sin}\left[\frac{f\,x}{2}\right]\right)}{\sqrt{c^2-d^2}\,\sqrt{(\text{Cos}[e]-i\,\text{Sin}[e])^2}}\right](\text{Cos}[e]-i\,\text{Sin}[e])\right)\Big/\left(\sqrt{c^2-d^2}\,\sqrt{(\text{Cos}[e]-i\,\text{Sin}[e])^2}\right)+\left(\left(2\,c^2+d^2\right)\,\left(A\,(c-2\,d)\,d+B\,\left(c^2+2\,c\,d-2\,d^2\right)\right)\,\text{Cot}[e]+d\,\text{Csc}[e]\,\left(-d\,\left(A\,(c-2\,d)\,d+B\,\left(c^2+2\,c\,d-2\,d^2\right)\right)\,\text{Cos}[e+2\,f\,x]+\left(B\,c\,\left(2\,c^2+6\,c\,d-5\,d^2\right)-A\,d\,\left(-4\,c^2+6\,c\,d+d^2\right)\right)\,\text{Sin}[f\,x]+\left(A\,d^2\,(-2\,c+d)+B\,c\,\left(2\,c^2+2\,c\,d-3\,d^2\right)\right)\,\text{Sin}[2\,e+f\,x]\right)\right)\Big/\left(d^2\,(c+d\,\text{Sin}[e+f\,x])^2\right)\right)\right)\Big/\left(4\,(c-d)\,(c+d)^2\,f\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2\right)$$

Problem 264: Result more than twice size of optimal antiderivative.

$$\int\frac{(a+a\,\text{Sin}[e+f\,x])^3\,(A+B\,\text{Sin}[e+f\,x])}{(c+d\,\text{Sin}[e+f\,x])^3}\,dx$$

Optimal (type 3, 305 leaves, 8 steps):

$$-\frac{a^3\,(3\,B\,c-A\,d-3\,B\,d)\,x}{d^4}-\left(a^3\,(c-d)\,\left(A\,d\,\left(2\,c^2+6\,c\,d+7\,d^2\right)-3\,B\,\left(2\,c^3+4\,c^2\,d+c\,d^2-2\,d^3\right)\right)\text{ArcTan}\left[\frac{d+c\,\text{Tan}\left[\frac{1}{2}\,(e+f\,x)\right]}{\sqrt{c^2-d^2}}\right]\right)\Big/\left(d^4\,(c+d)^2\,\sqrt{c^2-d^2}\,f\right)-\frac{a^3\,(3\,B\,c\,(2\,c+3\,d)-A\,d\,(2\,c+5\,d))\,\text{Cos}[e+f\,x]}{2\,d^3\,(c+d)^2\,f}+\frac{a\,(B\,c-A\,d)\,\text{Cos}[e+f\,x]\,(a+a\,\text{Sin}[e+f\,x])^2}{2\,d\,(c+d)\,f\,(c+d\,\text{Sin}[e+f\,x])^2}-\left(\left(A\,d\,(c+4\,d)-B\,\left(3\,c^2+4\,c\,d-2\,d^2\right)\right)\,\text{Cos}[e+f\,x]\,\left(a^3+a^3\,\text{Sin}[e+f\,x]\right)\right)\Big/\left(2\,d^2\,(c+d)^2\,f\,(c+d\,\text{Sin}[e+f\,x])\right)$$

Result (type 3, 830 leaves):

$$\frac{1}{4 d^4 (c+d)^2 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^6}$$

$$a^3 (1+\text{Sin}[e+f x])^3 \left(\frac{1}{\sqrt{c^2-d^2}} 4 (c-d) \left(-A d \left(2 c^2+6 c d+7 d^2\right)+3 B \left(2 c^3+4 c^2 d+c d^2-2 d^3\right)\right) \text{ArcTan}\left[\frac{d+c \text{Tan}\left[\frac{1}{2} (e+f x)\right]}{\sqrt{c^2-d^2}}\right]+\frac{1}{(c+d \text{Sin}[e+f x])^2} \left(-12 B c^5 e+4 A c^4 d e-12 B c^4 d e+8 A c^3 d^2 e+6 B c^3 d^2 e+6 A c^2 d^3 e+6 B c^2 d^3 e+4 A c d^4 e+6 B c d^4 e+2 A d^5 e+6 B d^5 e-12 B c^5 f x+4 A c^4 d f x-12 B c^4 d f x+8 A c^3 d^2 f x+6 B c^3 d^2 f x+6 A c^2 d^3 f x+6 B c^2 d^3 f x+4 A c d^4 f x+6 B c d^4 f x+2 A d^5 f x+6 B d^5 f x-d \left(2 A d \left(-2 c^3-4 c^2 d+5 c d^2+d^3\right)+B \left(12 c^4+12 c^3 d-9 c^2 d^2+4 c d^3+d^4\right)\right) \text{Cos}[e+f x]-2 d^2 (c+d)^2 (-3 B c+A d+3 B d) (e+f x) \text{Cos}[2 (e+f x)]+B c^2 d^3 \text{Cos}[3 (e+f x)]+2 B c d^4 \text{Cos}[3 (e+f x)]+B d^5 \text{Cos}[3 (e+f x)]-24 B c^4 d e \text{Sin}[e+f x]+8 A c^3 d^2 e \text{Sin}[e+f x]-24 B c^3 d^2 e \text{Sin}[e+f x]+16 A c^2 d^3 e \text{Sin}[e+f x]+24 B c^2 d^3 e \text{Sin}[e+f x]+8 A c d^4 e \text{Sin}[e+f x]+24 B c d^4 e \text{Sin}[e+f x]-24 B c^4 d f x \text{Sin}[e+f x]+8 A c^3 d^2 f x \text{Sin}[e+f x]-24 B c^3 d^2 f x \text{Sin}[e+f x]+16 A c^2 d^3 f x \text{Sin}[e+f x]+24 B c^2 d^3 f x \text{Sin}[e+f x]+8 A c d^4 f x \text{Sin}[e+f x]+24 B c d^4 f x \text{Sin}[e+f x]-9 B c^3 d^2 \text{Sin}[2 (e+f x)]+3 A c^2 d^3 \text{Sin}[2 (e+f x)]-9 B c^2 d^3 \text{Sin}[2 (e+f x)]+3 A c d^4 \text{Sin}[2 (e+f x)]+4 B c d^4 \text{Sin}[2 (e+f x)]-6 A d^5 \text{Sin}[2 (e+f x)]-2 B d^5 \text{Sin}[2 (e+f x)]\right)\right)$$

Problem 265: Result more than twice size of optimal antiderivative.

$$\int \frac{(A+B \text{Sin}[e+f x]) (c+d \text{Sin}[e+f x])^3}{a+a \text{Sin}[e+f x]} \, dx$$

Optimal (type 3, 220 leaves, 3 steps):

$$\frac{\left(3 A d \left(2 c^2-2 c d+d^2\right)+B \left(2 c^3-6 c^2 d+9 c d^2-3 d^3\right)\right) x}{2 a}+\frac{2 d \left(3 A \left(c^2-3 c d+d^2\right)-B \left(7 c^2-9 c d+4 d^2\right)\right) \text{Cos}[e+f x]}{3 a f}+\frac{d^2 (6 A c-11 B c-9 A d+9 B d) \text{Cos}[e+f x] \text{Sin}[e+f x]}{6 a f}+\frac{(3 A-4 B) d \text{Cos}[e+f x] (c+d \text{Sin}[e+f x])^2}{3 a f}-\frac{(A-B) \text{Cos}[e+f x] (c+d \text{Sin}[e+f x])^3}{f (a+a \text{Sin}[e+f x])}$$

Result (type 3, 788 leaves):

$$\frac{1}{24\,a\,f\,(1+\text{Sin}[e+f\,x])}\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)$$
$$\left(3\left(4\,A\,d\left(6\,c^2\,(e+f\,x)-3\,c\,d\,(1+2\,e+2\,f\,x)+d^2\,(1+3\,e+3\,f\,x)\right)+\right.\right.$$
$$\left.B\left(8\,c^3\,(e+f\,x)-12\,c^2\,d\,(1+2\,e+2\,f\,x)+12\,c\,d^2\,(1+3\,e+3\,f\,x)-d^3\,(7+12\,e+12\,f\,x)\right)\right)$$
$$\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+9\,d\left(A\,d\,(-4\,c+d)+B\left(-4\,c^2+3\,c\,d-2\,d^2\right)\right)\text{Cos}\left[\frac{3}{2}(e+f\,x)\right]+$$
$$9\,B\,c\,d^2\,\text{Cos}\left[\frac{5}{2}(e+f\,x)\right]+3\,A\,d^3\,\text{Cos}\left[\frac{5}{2}(e+f\,x)\right]-2\,B\,d^3\,\text{Cos}\left[\frac{5}{2}(e+f\,x)\right]+$$
$$B\,d^3\,\text{Cos}\left[\frac{7}{2}(e+f\,x)\right]+48\,A\,c^3\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-48\,B\,c^3\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-$$
$$144\,A\,c^2\,d\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+180\,B\,c^2\,d\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+180\,A\,c\,d^2\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-$$
$$180\,B\,c\,d^2\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-60\,A\,d^3\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+69\,B\,d^3\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+$$
$$24\,B\,c^3\,e\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+72\,A\,c^2\,d\,e\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-72\,B\,c^2\,d\,e\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-$$
$$72\,A\,c\,d^2\,e\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+108\,B\,c\,d^2\,e\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+36\,A\,d^3\,e\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-$$
$$36\,B\,d^3\,e\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+24\,B\,c^3\,f\,x\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+72\,A\,c^2\,d\,f\,x\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-$$
$$72\,B\,c^2\,d\,f\,x\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-72\,A\,c\,d^2\,f\,x\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+$$
$$108\,B\,c\,d^2\,f\,x\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]+36\,A\,d^3\,f\,x\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-36\,B\,d^3\,f\,x\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]-$$
$$36\,B\,c^2\,d\,\text{Sin}\left[\frac{3}{2}(e+f\,x)\right]-36\,A\,c\,d^2\,\text{Sin}\left[\frac{3}{2}(e+f\,x)\right]+27\,B\,c\,d^2\,\text{Sin}\left[\frac{3}{2}(e+f\,x)\right]+$$
$$9\,A\,d^3\,\text{Sin}\left[\frac{3}{2}(e+f\,x)\right]-18\,B\,d^3\,\text{Sin}\left[\frac{3}{2}(e+f\,x)\right]-9\,B\,c\,d^2\,\text{Sin}\left[\frac{5}{2}(e+f\,x)\right]-$$
$$\left.3\,A\,d^3\,\text{Sin}\left[\frac{5}{2}(e+f\,x)\right]+2\,B\,d^3\,\text{Sin}\left[\frac{5}{2}(e+f\,x)\right]+B\,d^3\,\text{Sin}\left[\frac{7}{2}(e+f\,x)\right]\right)$$

Problem 268: Result more than twice size of optimal antiderivative.

$$\int\frac{A+B\,\text{Sin}[e+f\,x]}{a+a\,\text{Sin}[e+f\,x]}\,dx$$

Optimal (type 3, 35 leaves, 2 steps):

$$\frac{B\,x}{a}-\frac{(A-B)\,\text{Cos}[e+f\,x]}{f\,(a+a\,\text{Sin}[e+f\,x])}$$

Result (type 3, 79 leaves):

$$\left(\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\right.$$
$$\left.\left(B\,(e+f\,x)\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+(2\,A+B\,(-2+e+f\,x))\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\right)\Big/\left(a\right.$$
$$\left.f\,(1+\text{Sin}[e+f\,x])\right)$$

Problem 272: Result more than twice size of optimal antiderivative.

$$\int \frac{(A+B\,\text{Sin}[e+f\,x])\,(c+d\,\text{Sin}[e+f\,x])^3}{(a+a\,\text{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 3, 228 leaves, 3 steps):

$$\frac{d\,\left(2\,A\,(3\,c-2\,d)\,d+B\,\left(6\,c^2-12\,c\,d+7\,d^2\right)\right)\,x}{2\,a^2}+\frac{2\,d\,\left(A\,\left(c^2+6\,c\,d-5\,d^2\right)+B\,\left(2\,c^2-15\,c\,d+8\,d^2\right)\right)\,\text{Cos}[e+f\,x]}{3\,a^2\,f}+\frac{d^2\,(B\,(4\,c-21\,d)+2\,A\,(c+6\,d))\,\text{Cos}[e+f\,x]\,\text{Sin}[e+f\,x]}{6\,a^2\,f}-\frac{(2\,B\,(c-4\,d)+A\,(c+5\,d))\,\text{Cos}[e+f\,x]\,(c+d\,\text{Sin}[e+f\,x])^2}{3\,a^2\,f\,(1+\text{Sin}[e+f\,x])}-\frac{(A-B)\,\text{Cos}[e+f\,x]\,(c+d\,\text{Sin}[e+f\,x])^3}{3\,f\,(a+a\,\text{Sin}[e+f\,x])^2}$$

Result (type 3, 1032 leaves):

$$\frac{1}{48 f (a + a \operatorname{Sin}[e + f x])^2}$$

$$\left(\operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] + \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right]\right) \left(48 B c^3 \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] + 144 A c^2 d \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] -\right.$$

$$288 B c^2 d \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] - 288 A c d^2 \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] + 360 B c d^2 \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] +$$

$$120 A d^3 \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] - 147 B d^3 \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] + 216 B c^2 d (e + f x) \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] +$$

$$216 A c d^2 (e + f x) \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] - 432 B c d^2 (e + f x) \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] -$$

$$144 A d^3 (e + f x) \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] + 252 B d^3 (e + f x) \operatorname{Cos}\left[\frac{1}{2}(e + f x)\right] -$$

$$16 A c^3 \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] - 32 B c^3 \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] - 96 A c^2 d \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] +$$

$$240 B c^2 d \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] + 240 A c d^2 \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] - 492 B c d^2 \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] -$$

$$164 A d^3 \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] + 239 B d^3 \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] - 72 B c^2 d (e + f x) \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] -$$

$$72 A c d^2 (e + f x) \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] + 144 B c d^2 (e + f x) \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] +$$

$$48 A d^3 (e + f x) \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] - 84 B d^3 (e + f x) \operatorname{Cos}\left[\frac{3}{2}(e + f x)\right] +$$

$$36 B c d^2 \operatorname{Cos}\left[\frac{5}{2}(e + f x)\right] + 12 A d^3 \operatorname{Cos}\left[\frac{5}{2}(e + f x)\right] - 15 B d^3 \operatorname{Cos}\left[\frac{5}{2}(e + f x)\right] +$$

$$3 B d^3 \operatorname{Cos}\left[\frac{7}{2}(e + f x)\right] + 48 A c^3 \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] + 48 B c^3 \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] +$$

$$144 A c^2 d \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] - 432 B c^2 d \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] - 432 A c d^2 \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] +$$

$$792 B c d^2 \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] + 264 A d^3 \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] - 381 B d^3 \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] +$$

$$216 B c^2 d (e + f x) \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] + 216 A c d^2 (e + f x) \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] -$$

$$432 B c d^2 (e + f x) \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] - 144 A d^3 (e + f x) \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] +$$

$$252 B d^3 (e + f x) \operatorname{Sin}\left[\frac{1}{2}(e + f x)\right] - 108 B c d^2 \operatorname{Sin}\left[\frac{3}{2}(e + f x)\right] -$$

$$36 A d^3 \operatorname{Sin}\left[\frac{3}{2}(e + f x)\right] + 63 B d^3 \operatorname{Sin}\left[\frac{3}{2}(e + f x)\right] + 72 B c^2 d (e + f x) \operatorname{Sin}\left[\frac{3}{2}(e + f x)\right] +$$

$$72 A c d^2 (e + f x) \operatorname{Sin}\left[\frac{3}{2}(e + f x)\right] - 144 B c d^2 (e + f x) \operatorname{Sin}\left[\frac{3}{2}(e + f x)\right] -$$

$$48 A d^3 (e + f x) \operatorname{Sin}\left[\frac{3}{2}(e + f x)\right] + 84 B d^3 (e + f x) \operatorname{Sin}\left[\frac{3}{2}(e + f x)\right] - 36 B c d^2 \operatorname{Sin}\left[\frac{5}{2}(e + f x)\right] -$$

$$\left. 12 A d^3 \operatorname{Sin}\left[\frac{5}{2}(e + f x)\right] + 15 B d^3 \operatorname{Sin}\left[\frac{5}{2}(e + f x)\right] + 3 B d^3 \operatorname{Sin}\left[\frac{7}{2}(e + f x)\right]\right)$$

Problem 273: Result more than twice size of optimal antiderivative.

$$\int \frac{(A+B\,\mathrm{Sin}[e+f\,x])\,(c+d\,\mathrm{Sin}[e+f\,x])^2}{(a+a\,\mathrm{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 3, 132 leaves, 5 steps):

$$\frac{d\,(2\,B\,(c-d)+A\,d)\,x}{a^2}+\frac{(A-4\,B)\,d^2\,\mathrm{Cos}[e+f\,x]}{3\,a^2\,f}-\frac{(c-d)\,(2\,B\,(c-3\,d)+A\,(c+3\,d))\,\mathrm{Cos}[e+f\,x]}{3\,a^2\,f\,(1+\mathrm{Sin}[e+f\,x])}-\frac{(A-B)\,\mathrm{Cos}[e+f\,x]\,(c+d\,\mathrm{Sin}[e+f\,x])^2}{3\,f\,(a+a\,\mathrm{Sin}[e+f\,x])^2}$$

Result (type 3, 338 leaves):

$$\frac{1}{12\,a^2\,f\,(1+\mathrm{Sin}[e+f\,x])^2}\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\Bigg(6\,(A\,d\,(4\,c+d\,(-4+3\,e+3\,f\,x))+B\,(2\,c^2+d^2\,(5-6\,e-6\,f\,x)+2\,c\,d\,(-4+3\,e+3\,f\,x)))\,\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-(B\,(8\,c^2+d^2\,(41-12\,e-12\,f\,x)+4\,c\,d\,(-10+3\,e+3\,f\,x))+2\,A\,(2\,c^2+8\,c\,d+d^2\,(-10+3\,e+3\,f\,x)))\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+3\,B\,d^2\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]+6\,(2\,A\,c^2+2\,B\,c^2+4\,A\,c\,d-12\,B\,c\,d-6\,A\,d^2+9\,B\,d^2+8\,B\,c\,d\,e+4\,A\,d^2\,e-8\,B\,d^2\,e+8\,B\,c\,d\,f\,x+4\,A\,d^2\,f\,x-8\,B\,d^2\,f\,x-2\,d\,(-2\,B\,c\,(e+f\,x)-A\,d\,(e+f\,x)+2\,B\,d\,(1+e+f\,x))\,\mathrm{Cos}[e+f\,x]-B\,d^2\,\mathrm{Cos}[2\,(e+f\,x)])\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\Bigg)$$

Problem 274: Result more than twice size of optimal antiderivative.

$$\int \frac{(A+B\,\mathrm{Sin}[e+f\,x])\,(c+d\,\mathrm{Sin}[e+f\,x])}{(a+a\,\mathrm{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 3, 85 leaves, 4 steps):

$$\frac{B\,d\,x}{a^2}-\frac{(A\,c+2\,B\,c+2\,A\,d-5\,B\,d)\,\mathrm{Cos}[e+f\,x]}{3\,a^2\,f\,(1+\mathrm{Sin}[e+f\,x])}-\frac{(A-B)\,(c-d)\,\mathrm{Cos}[e+f\,x]}{3\,f\,(a+a\,\mathrm{Sin}[e+f\,x])^2}$$

Result (type 3, 180 leaves):

$$\Bigg(\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\Bigg(2\,(A-B)\,(c-d)\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-(A-B)\,(c-d)\,\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)+2\,(A\,c+2\,B\,c+2\,A\,d-5\,B\,d)\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2+3\,B\,d\,(e+f\,x)\left(\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\Bigg)\Bigg)\Big/\left(3\,a^2\,f\,(1+\mathrm{Sin}[e+f\,x])^2\right)$$

Problem 278: Result more than twice size of optimal antiderivative.

$$\int \frac{A+B\,\text{Sin}[e+f\,x]}{(a+a\,\text{Sin}[e+f\,x])^2\,(c+d\,\text{Sin}[e+f\,x])^3}\,dx$$

Optimal (type 3, 386 leaves, 8 steps):

$$\left(d\left(A\,d\left(12\,c^2+16\,c\,d+7\,d^2\right)-B\left(6\,c^3+12\,c^2\,d+13\,c\,d^2+4\,d^3\right)\right)\text{ArcTan}\left[\frac{d+c\,\text{Tan}\left[\frac{1}{2}(e+f\,x)\right]}{\sqrt{c^2-d^2}}\right]\right)\Big/\left(a^2\,(c-d)^4\,(c+d)^2\,\sqrt{c^2-d^2}\,f\right)-\frac{d\left(A\left(2\,c^2-16\,c\,d-21\,d^2\right)+B\left(4\,c^2+19\,c\,d+12\,d^2\right)\right)\text{Cos}[e+f\,x]}{6\,a^2\,(c-d)^3\,(c+d)\,f\,(c+d\,\text{Sin}[e+f\,x])^2}-\frac{(A\,c+2\,B\,c-8\,A\,d+5\,B\,d)\,\text{Cos}[e+f\,x]}{3\,a^2\,(c-d)^2\,f\,(1+\text{Sin}[e+f\,x])\,(c+d\,\text{Sin}[e+f\,x])^2}-\frac{(A-B)\,\text{Cos}[e+f\,x]}{3\,(c-d)\,f\,(a+a\,\text{Sin}[e+f\,x])^2\,(c+d\,\text{Sin}[e+f\,x])^2}-\left(d\left(A\left(2\,c^3-16\,c^2\,d-59\,c\,d^2-32\,d^3\right)+B\left(4\,c^3+37\,c^2\,d+44\,c\,d^2+20\,d^3\right)\right)\text{Cos}[e+f\,x]\right)\Big/\left(6\,a^2\,(c-d)^4\,(c+d)^2\,f\,(c+d\,\text{Sin}[e+f\,x])\right)$$

Result (type 3, 1522 leaves):

$$-\left(\left(\left(d\left(6\,B\,c^3-12\,A\,c^2\,d+12\,B\,c^2\,d-16\,A\,c\,d^2+13\,B\,c\,d^2-7\,A\,d^3+4\,B\,d^3\right)\text{ArcTan}\left[\frac{\text{Sec}\left[\frac{1}{2}(e+f\,x)\right]\left(d\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+c\,\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)}{\sqrt{c^2-d^2}}\right]\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)^4\right)\Big/\left((c-d)^4\,(c+d)^2\,\sqrt{c^2-d^2}\,f\,(a+a\,\text{Sin}[e+f\,x])^2\right)\right)+$$

$$\frac{1}{48\,(c-d)^4\,(c+d)^2\,f\,(a+a\,\text{Sin}[e+f\,x])^2\,(c+d\,\text{Sin}[e+f\,x])^2}\left(\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)$$

$$\left(48\,B\,c^5\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-96\,A\,c^4\,d\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+240\,B\,c^4\,d\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-524\,A\,c^3\,d^2\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+536\,B\,c^3\,d^2\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-776\,A\,c^2\,d^3\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+701\,B\,c^2\,d^3\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]-487\,A\,c\,d^4\,\text{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\right.$$

$$400\,B\,c\,d^4\,\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-112\,A\,d^5\,\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+70\,B\,d^5\,\mathrm{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-$$
$$16\,A\,c^5\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-32\,B\,c^5\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+80\,A\,c^4\,d\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-$$
$$224\,B\,c^4\,d\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+536\,A\,c^3\,d^2\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-728\,B\,c^3\,d^2\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+$$
$$1028\,A\,c^2\,d^3\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-893\,B\,c^2\,d^3\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+695\,A\,c\,d^4\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-$$
$$482\,B\,c\,d^4\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+134\,A\,d^5\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-98\,B\,d^5\,\mathrm{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+$$
$$24\,B\,c^3\,d^2\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]-12\,A\,c^2\,d^3\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]+21\,B\,c^2\,d^3\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]-$$
$$15\,A\,c\,d^4\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]-18\,B\,c\,d^4\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]+6\,A\,d^5\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]-$$
$$6\,B\,d^5\,\mathrm{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]+4\,A\,c^3\,d^2\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]+8\,B\,c^3\,d^2\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]-$$
$$32\,A\,c^2\,d^3\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]+59\,B\,c^2\,d^3\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]-97\,A\,c\,d^4\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]+$$
$$76\,B\,c\,d^4\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]-52\,A\,d^5\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]+34\,B\,d^5\,\mathrm{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]+$$
$$48\,A\,c^5\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+48\,B\,c^5\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-224\,A\,c^4\,d\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+$$
$$416\,B\,c^4\,d\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-872\,A\,c^3\,d^2\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+992\,B\,c^3\,d^2\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-$$
$$1144\,A\,c^2\,d^3\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+967\,B\,c^2\,d^3\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-685\,A\,c\,d^4\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+$$
$$496\,B\,c\,d^4\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-168\,A\,d^5\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+126\,B\,d^5\,\mathrm{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+$$
$$48\,B\,c^4\,d\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-132\,A\,c^3\,d^2\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+96\,B\,c^3\,d^2\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-$$
$$204\,A\,c^2\,d^3\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+207\,B\,c^2\,d^3\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-165\,A\,c\,d^4\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+$$
$$174\,B\,c\,d^4\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-66\,A\,d^5\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+42\,B\,d^5\,\mathrm{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-$$
$$16\,A\,c^4\,d\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-32\,B\,c^4\,d\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+116\,A\,c^3\,d^2\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-$$
$$224\,B\,c^3\,d^2\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+412\,A\,c^2\,d^3\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-409\,B\,c^2\,d^3\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+$$
$$403\,A\,c\,d^4\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-286\,B\,c\,d^4\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+114\,A\,d^5\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-$$
$$78\,B\,d^5\,\mathrm{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+15\,B\,c^2\,d^3\,\mathrm{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]-21\,A\,c\,d^4\,\mathrm{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]+$$
$$12\,B\,c\,d^4\,\mathrm{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]-12\,A\,d^5\,\mathrm{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]+6\,B\,d^5\,\mathrm{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]\Big]\Big)$$

Problem 280: Result more than twice size of optimal antiderivative.

$$\int \frac{(A + B \sin[e + f x]) (c + d \sin[e + f x])^2}{(a + a \sin[e + f x])^3} \, dx$$

Optimal (type 3, 164 leaves, 5 steps):

$$\frac{B d^2 x}{a^3} - \frac{(c - d) (B (3 c - 7 d) + 2 A (c + d)) \cos[e + f x]}{15 a f (a + a \sin[e + f x])^2} - \frac{(B (3 c^2 + 14 c d - 29 d^2) + 2 A (c^2 + 3 c d + 2 d^2)) \cos[e + f x]}{15 f (a^3 + a^3 \sin[e + f x])} - \frac{(A - B) \cos[e + f x] (c + d \sin[e + f x])^2}{5 f (a + a \sin[e + f x])^3}$$

Result (type 3, 514 leaves):

$$\frac{1}{60 a^3 f (1 + \sin[e + f x])^3} \left(\cos\left[\frac{1}{2} (e + f x)\right] + \sin\left[\frac{1}{2} (e + f x)\right]\right) \Bigg(30 (2 A d (c + d) + B (c^2 + 4 c d + d^2 (-9 + 5 e + 5 f x))) \cos\left[\frac{1}{2} (e + f x)\right] - 5 (4 A (c^2 + 3 c d + 2 d^2) + B (6 c^2 + 16 c d + d^2 (-46 + 15 e + 15 f x))) \cos\left[\frac{3}{2} (e + f x)\right] - 15 B d^2 e \cos\left[\frac{5}{2} (e + f x)\right] - 15 B d^2 f x \cos\left[\frac{5}{2} (e + f x)\right] + 40 A c^2 \sin\left[\frac{1}{2} (e + f x)\right] + 30 B c^2 \sin\left[\frac{1}{2} (e + f x)\right] + 60 A c d \sin\left[\frac{1}{2} (e + f x)\right] + 160 B c d \sin\left[\frac{1}{2} (e + f x)\right] + 80 A d^2 \sin\left[\frac{1}{2} (e + f x)\right] - 370 B d^2 \sin\left[\frac{1}{2} (e + f x)\right] + 150 B d^2 e \sin\left[\frac{1}{2} (e + f x)\right] + 150 B d^2 f x \sin\left[\frac{1}{2} (e + f x)\right] + 60 B c d \sin\left[\frac{3}{2} (e + f x)\right] + 30 A d^2 \sin\left[\frac{3}{2} (e + f x)\right] - 90 B d^2 \sin\left[\frac{3}{2} (e + f x)\right] + 75 B d^2 e \sin\left[\frac{3}{2} (e + f x)\right] + 75 B d^2 f x \sin\left[\frac{3}{2} (e + f x)\right] - 4 A c^2 \sin\left[\frac{5}{2} (e + f x)\right] - 6 B c^2 \sin\left[\frac{5}{2} (e + f x)\right] - 12 A c d \sin\left[\frac{5}{2} (e + f x)\right] - 28 B c d \sin\left[\frac{5}{2} (e + f x)\right] - 14 A d^2 \sin\left[\frac{5}{2} (e + f x)\right] + 64 B d^2 \sin\left[\frac{5}{2} (e + f x)\right] - 15 B d^2 e \sin\left[\frac{5}{2} (e + f x)\right] - 15 B d^2 f x \sin\left[\frac{5}{2} (e + f x)\right]\Bigg)$$

Problem 283: Result more than twice size of optimal antiderivative.

$$\int \frac{A + B \sin[e + f x]}{(a + a \sin[e + f x])^3 (c + d \sin[e + f x])} \, dx$$

Optimal (type 3, 229 leaves, 7 steps):

$$\frac{2 d^2 (B c - A d) \text{ArcTan}\left[\frac{d+c \text{Tan}\left[\frac{1}{2}(e+f x)\right]}{\sqrt{c^2-d^2}}\right]}{a^3 (c-d)^3 \sqrt{c^2-d^2} f} - \frac{(A-B) \text{Cos}[e+f x]}{5 (c-d) f (a+a \text{Sin}[e+f x])^3} - \frac{(2 A c+3 B c-7 A d+2 B d) \text{Cos}[e+f x]}{15 a (c-d)^2 f (a+a \text{Sin}[e+f x])^2} - \frac{\left(B \left(3 c^2-16 c d-2 d^2\right)+A \left(2 c^2-9 c d+22 d^2\right)\right) \text{Cos}[e+f x]}{15 (c-d)^3 f \left(a^3+a^3 \text{Sin}[e+f x]\right)}$$

Result (type 3, 502 leaves) :

$$\frac{1}{30 a^3 (c-d)^3 f (1+\text{Sin}[e+f x])^3} \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) \left(15 B c^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right] - 15 A c d \text{Cos}\left[\frac{1}{2}(e+f x)\right] - 75 B c d \text{Cos}\left[\frac{1}{2}(e+f x)\right] + 75 A d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right] - 10 A c^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right] - 15 B c^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right] + 45 A c d \text{Cos}\left[\frac{3}{2}(e+f x)\right] + 65 B c d \text{Cos}\left[\frac{3}{2}(e+f x)\right] - 95 A d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right] + 10 B d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right] + 20 A c^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right] + 15 B c^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right] - 75 A c d \text{Sin}\left[\frac{1}{2}(e+f x)\right] - 85 B c d \text{Sin}\left[\frac{1}{2}(e+f x)\right] + 145 A d^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right] - 20 B d^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right] - \frac{1}{\sqrt{c^2-d^2}} 60 d^2 (-B c+A d) \text{ArcTan}\left[\frac{d+c \text{Tan}\left[\frac{1}{2}(e+f x)\right]}{\sqrt{c^2-d^2}}\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5 - 15 B c d \text{Sin}\left[\frac{3}{2}(e+f x)\right] + 15 A d^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right] - 2 A c^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right] - 3 B c^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right] + 9 A c d \text{Sin}\left[\frac{5}{2}(e+f x)\right] + 16 B c d \text{Sin}\left[\frac{5}{2}(e+f x)\right] - 22 A d^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right] + 2 B d^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]\right)$$

Problem 284: Result more than twice size of optimal antiderivative.

$$\int \frac{A+B \text{Sin}[e+f x]}{(a+a \text{Sin}[e+f x])^3 (c+d \text{Sin}[e+f x])^2} \, dx$$

Optimal (type 3, 381 leaves, 8 steps) :

$$-\frac{2 d^2 \left(A d (4 c+3 d)-B \left(3 c^2+3 c d+d^2\right)\right) \text{ArcTan}\left[\frac{d+c \tan\left[\frac{1}{2}(e+f x)\right]}{\sqrt{c^2-d^2}}\right]}{a^3 (c-d)^4 (c+d) \sqrt{c^2-d^2}\, f}-$$

$$\left(d \left(B \left(3 c^3-23 c^2 d-63 c d^2-22 d^3\right)+A \left(2 c^3-12 c^2 d+43 c d^2+72 d^3\right)\right) \text{Cos}[e+f x]\right) \Big/ \left(15 a^3 (c-d)^4 (c+d) f (c+d \text{Sin}[e+f x])\right)-\frac{(A-B) \text{Cos}[e+f x]}{5 (c-d) f (a+a \text{Sin}[e+f x])^3 (c+d \text{Sin}[e+f x])}-$$

$$\frac{(2 A c+3 B c-9 A d+4 B d) \text{Cos}[e+f x]}{15 a (c-d)^2 f (a+a \text{Sin}[e+f x])^2 (c+d \text{Sin}[e+f x])}-$$

$$\frac{\left(B \left(3 c^2-23 c d-15 d^2\right)+A \left(2 c^2-12 c d+45 d^2\right)\right) \text{Cos}[e+f x]}{15 (c-d)^3 f \left(a^3+a^3 \text{Sin}[e+f x]\right) (c+d \text{Sin}[e+f x])}$$

Result (type 3, 1253 leaves):

$$\left(2 d^2 \left(3 B c^2-4 A c d+3 B c d-3 A d^2+B d^2\right) \text{ArcTan}\left[\frac{\text{Sec}\left[\frac{1}{2}(e+f x)\right] \left(d \text{Cos}\left[\frac{1}{2}(e+f x)\right]+c \text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)}{\sqrt{c^2-d^2}}\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^6\right) \Big/ \left((c-d)^4 (c+d) \sqrt{c^2-d^2}\, f (a+a \text{Sin}[e+f x])^3\right)+$$

$$\frac{1}{120 (c-d)^4 (c+d) f (a+a \text{Sin}[e+f x])^3 (c+d \text{Sin}[e+f x])}$$

$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) \left(60 B c^4 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-\right.$$

$$80 A c^3 d \text{Cos}\left[\frac{1}{2}(e+f x)\right]-390 B c^3 d \text{Cos}\left[\frac{1}{2}(e+f x)\right]+540 A c^2 d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-$$

$$1090 B c^2 d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]+1430 A c d^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-885 B c d^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]+$$

$$735 A d^4 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-320 B d^4 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-40 A c^4 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-$$

$$60 B c^4 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+196 A c^3 d \text{Cos}\left[\frac{3}{2}(e+f x)\right]+304 B c^3 d \text{Cos}\left[\frac{3}{2}(e+f x)\right]-$$

$$476 A c^2 d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+1076 B c^2 d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-1546 A c d^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+$$

$$1181 B c d^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-969 A d^4 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+334 B d^4 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+$$

$$60 B c^2 d^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]-90 A c d^3 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+15 B c d^3 \text{Cos}\left[\frac{5}{2}(e+f x)\right]-$$

$$15 A d^4 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+30 B d^4 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+4 A c^3 d \text{Cos}\left[\frac{7}{2}(e+f x)\right]+$$

$$6 B c^3 d \text{Cos}\left[\frac{7}{2}(e+f x)\right]-24 A c^2 d^2 \text{Cos}\left[\frac{7}{2}(e+f x)\right]-46 B c^2 d^2 \text{Cos}\left[\frac{7}{2}(e+f x)\right]+$$

$86\,A\,c\,d^3\,\text{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]-111\,B\,c\,d^3\,\text{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]+129\,A\,d^4\,\text{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]-$
$44\,B\,d^4\,\text{Cos}\left[\frac{7}{2}\,(e+f\,x)\right]+80\,A\,c^4\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+60\,B\,c^4\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-$
$340\,A\,c^3\,d\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-440\,B\,c^3\,d\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+820\,A\,c^2\,d^2\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-$
$1520\,B\,c^2\,d^2\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+2140\,A\,c\,d^3\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-1435\,B\,c\,d^3\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+$
$975\,A\,d^4\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-340\,B\,d^4\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-90\,B\,c^3\,d\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+$
$120\,A\,c^2\,d^2\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-390\,B\,c^2\,d^2\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+540\,A\,c\,d^3\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-$
$315\,B\,c\,d^3\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+285\,A\,d^4\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-150\,B\,d^4\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-$
$8\,A\,c^4\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-12\,B\,c^4\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+28\,A\,c^3\,d\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+$
$62\,B\,c^3\,d\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-52\,A\,c^2\,d^2\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+362\,B\,c^2\,d^2\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-$
$568\,A\,c\,d^3\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+553\,B\,c\,d^3\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-555\,A\,d^4\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+$
$190\,B\,d^4\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-15\,B\,c\,d^3\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]+15\,A\,d^4\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]\Big)$

Problem 290: Result is not expressed in closed-form.

$$\int \frac{\sqrt{a+a\,\text{Sin}[e+f\,x]}\,\left(A+B\,\text{Sin}[e+f\,x]\right)}{c+d\,\text{Sin}[e+f\,x]}\,dx$$

Optimal (type 3, 100 leaves, 3 steps):

$$\frac{2\,\sqrt{a}\,\left(B\,c-A\,d\right)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\sqrt{d}\,\text{Cos}[e+f\,x]}{\sqrt{c+d}\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}\right]}{d^{3/2}\,\sqrt{c+d}\,f}-\frac{2\,a\,B\,\text{Cos}[e+f\,x]}{d\,f\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}$$

Result (type 7, 903 leaves):

$$\frac{1}{d^{3/2}\left(\mathrm{Cos}\left[\frac{1}{2}(e+fx)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+fx)\right]\right)}\left(\frac{1}{2}+\frac{i}{2}\right)\left(-\frac{(2-2i)\,B\sqrt{d}\,\mathrm{Cos}\left[\frac{fx}{2}\right]\left(\mathrm{Cos}\left[\frac{e}{2}\right]-\mathrm{Sin}\left[\frac{e}{2}\right]\right)}{f}+\right.$$

$$\frac{1}{\sqrt{c+d}\,(\mathrm{Cos}[e]+i(-1+\mathrm{Sin}[e]))\sqrt{\mathrm{Cos}[e]-i\,\mathrm{Sin}[e]}}(-Bc+Ad)\left(\mathrm{Cos}\left[\frac{e}{2}\right]+i\,\mathrm{Sin}\left[\frac{e}{2}\right]\right)$$

$$\left((-1+i)\,x\,\mathrm{Cos}[e]+\frac{1}{4f}\mathrm{RootSum}\left[-d+2ic\,e^{ie}\,\#1^2+d\,e^{2ie}\,\#1^4\,\&,\ \frac{1}{d-ic\,e^{ie}\,\#1^2}\right.\right.$$

$$\left((1+i)\,d\sqrt{e^{-ie}}\,fx-(2-2i)\,d\sqrt{e^{-ie}}\,\mathrm{Log}\left[e^{\frac{ifx}{2}}-\#1\right]-i\sqrt{d}\,\sqrt{c+d}\,fx\,\#1+\right.$$

$$2\sqrt{d}\,\sqrt{c+d}\,\mathrm{Log}\left[e^{\frac{ifx}{2}}-\#1\right]\#1+\frac{(1-i)\,c\,fx\,\#1^2}{\sqrt{e^{-ie}}}+\frac{(2+2i)\,c\,\mathrm{Log}\left[e^{\frac{ifx}{2}}-\#1\right]\#1^2}{\sqrt{e^{-ie}}}-$$

$$\left.\left.\sqrt{d}\,\sqrt{c+d}\,e^{ie}\,fx\,\#1^3-2i\sqrt{d}\,\sqrt{c+d}\,e^{ie}\,\mathrm{Log}\left[e^{\frac{ifx}{2}}-\#1\right]\#1^3\right)\&\right]$$

$$\left.(\mathrm{Cos}[e]+i(-1+\mathrm{Sin}[e]))\sqrt{\mathrm{Cos}[e]-i\,\mathrm{Sin}[e]}+(1+i)\,x\,\mathrm{Sin}[e]\right)+$$

$$\frac{1}{\sqrt{c+d}\,(\mathrm{Cos}[e]+i(-1+\mathrm{Sin}[e]))\sqrt{\mathrm{Cos}[e]-i\,\mathrm{Sin}[e]}}$$

$$(-Bc+Ad)\left(\mathrm{Cos}\left[\frac{e}{2}\right]+i\,\mathrm{Sin}\left[\frac{e}{2}\right]\right)$$

$$\left((1-i)\,x\,\mathrm{Cos}[e]-(1+i)\,x\,\mathrm{Sin}[e]+\frac{1}{4f}\mathrm{RootSum}\left[-d+2ic\,e^{ie}\,\#1^2+d\,e^{2ie}\,\#1^4\,\&,\right.\right.$$

$$\frac{1}{d-ic\,e^{ie}\,\#1^2}\left((1-i)\,d\sqrt{e^{-ie}}\,fx+(2+2i)\,d\sqrt{e^{-ie}}\,\mathrm{Log}\left[e^{\frac{ifx}{2}}-\#1\right]+\right.$$

$$\sqrt{d}\,\sqrt{c+d}\,fx\,\#1+2i\sqrt{d}\,\sqrt{c+d}\,\mathrm{Log}\left[e^{\frac{ifx}{2}}-\#1\right]\#1-\frac{(1+i)\,c\,fx\,\#1^2}{\sqrt{e^{-ie}}}+$$

$$\frac{(2-2i)\,c\,\mathrm{Log}\left[e^{\frac{ifx}{2}}-\#1\right]\#1^2}{\sqrt{e^{-ie}}}-i\sqrt{d}\,\sqrt{c+d}\,e^{ie}\,fx\,\#1^3+2\sqrt{d}\,\sqrt{c+d}\,e^{ie}$$

$$\left.\left.\left.\mathrm{Log}\left[e^{\frac{ifx}{2}}-\#1\right]\#1^3\right)\&\right]\sqrt{\mathrm{Cos}[e]-i\,\mathrm{Sin}[e]}\,(-1-i\,\mathrm{Cos}[e]+\mathrm{Sin}[e])\right)+$$

$$\left.\frac{(2-2i)\,B\sqrt{d}\left(\mathrm{Cos}\left[\frac{e}{2}\right]+\mathrm{Sin}\left[\frac{e}{2}\right]\right)\mathrm{Sin}\left[\frac{fx}{2}\right]}{f}\right)\sqrt{a\,(1+\mathrm{Sin}[e+fx])}$$

Problem 291: Result is not expressed in closed-form.

$$\int \frac{\sqrt{a + a \operatorname{Sin}[e + f x]}\ (A + B \operatorname{Sin}[e + f x])}{(c + d \operatorname{Sin}[e + f x])^2}\, dx$$

Optimal (type 3, 126 leaves, 3 steps):

$$-\frac{\sqrt{a}\ (A d + B (c + 2 d))\ \operatorname{ArcTanh}\left[\frac{\sqrt{a}\ \sqrt{d}\ \operatorname{Cos}[e+f x]}{\sqrt{c+d}\ \sqrt{a+a \operatorname{Sin}[e+f x]}}\right]}{d^{3/2}\ (c + d)^{3/2}\ f} + \frac{a\ (B c - A d)\ \operatorname{Cos}[e + f x]}{d\ (c + d)\ f\ \sqrt{a + a \operatorname{Sin}[e + f x]}\ (c + d \operatorname{Sin}[e + f x])}$$

Result (type 7, 901 leaves):

$$\frac{1}{d^{3/2}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)}\left(\frac{1}{4}+\frac{i}{4}\right)\sqrt{a\,(1+\text{Sin}[e+f x])}\left(\frac{1}{(c+d)^{3/2}\,(\text{Cos}[e]+i\,(-1+\text{Sin}[e]))\,\sqrt{\text{Cos}[e]-i\,\text{Sin}[e]}}\right.$$

$$(A d+B\,(c+2 d))\left(\text{Cos}\left[\frac{e}{2}\right]+i\,\text{Sin}\left[\frac{e}{2}\right]\right)$$

$$\left((-1+i)\,x\,\text{Cos}[e]+\frac{1}{4 f}\text{RootSum}\left[-d+2\,i\,c\,e^{i e}\,\#1^2+d\,e^{2 i e}\,\#1^4\,\&,\ \frac{1}{d-i\,c\,e^{i e}\,\#1^2}\right.\right.$$

$$\left((1+i)\,d\sqrt{e^{-i e}}\,f x-(2-2 i)\,d\sqrt{e^{-i e}}\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]-i\sqrt{d}\,\sqrt{c+d}\,f x\,\#1+\right.$$

$$2\sqrt{d}\,\sqrt{c+d}\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1+\frac{(1-i)\,c f x\,\#1^2}{\sqrt{e^{-i e}}}+\frac{(2+2 i)\,c\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1^2}{\sqrt{e^{-i e}}}-$$

$$\left.\left.\sqrt{d}\,\sqrt{c+d}\,e^{i e} f x\,\#1^3-2\,i\sqrt{d}\,\sqrt{c+d}\,e^{i e}\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1^3\right)\&\right]$$

$$\left.(\text{Cos}[e]+i\,(-1+\text{Sin}[e]))\sqrt{\text{Cos}[e]-i\,\text{Sin}[e]}+(1+i)\,x\,\text{Sin}[e]\right)+$$

$$\frac{1}{(c+d)^{3/2}\,(\text{Cos}[e]+i\,(-1+\text{Sin}[e]))\,\sqrt{\text{Cos}[e]-i\,\text{Sin}[e]}}$$

$$(A d+B\,(c+2 d))\left(\text{Cos}\left[\frac{e}{2}\right]+i\,\text{Sin}\left[\frac{e}{2}\right]\right)$$

$$\left((1-i)\,x\,\text{Cos}[e]-(1+i)\,x\,\text{Sin}[e]+\frac{1}{4 f}\text{RootSum}\left[-d+2\,i\,c\,e^{i e}\,\#1^2+d\,e^{2 i e}\,\#1^4\,\&,\right.\right.$$

$$\frac{1}{d-i\,c\,e^{i e}\,\#1^2}\left((1-i)\,d\sqrt{e^{-i e}}\,f x+(2+2 i)\,d\sqrt{e^{-i e}}\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]+\right.$$

$$\sqrt{d}\,\sqrt{c+d}\,f x\,\#1+2\,i\sqrt{d}\,\sqrt{c+d}\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1-\frac{(1+i)\,c f x\,\#1^2}{\sqrt{e^{-i e}}}+$$

$$\frac{(2-2 i)\,c\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1^2}{\sqrt{e^{-i e}}}-i\sqrt{d}\,\sqrt{c+d}\,e^{i e} f x\,\#1^3+2\sqrt{d}\,\sqrt{c+d}\,e^{i e}$$

$$\left.\left.\left.\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1^3\right)\&\right]\sqrt{\text{Cos}[e]-i\,\text{Sin}[e]}\,(-1-i\,\text{Cos}[e]+\text{Sin}[e])\right)-$$

$$\left.\frac{(2-2 i)\sqrt{d}\,(-B c+A d)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)}{(c+d)\,f\,(c+d\,\text{Sin}[e+f x])}\right)$$

Problem 292: Result is not expressed in closed-form.

$$\int \frac{\sqrt{a+a\,\text{Sin}[e+f x]}\,(A+B\,\text{Sin}[e+f x])}{(c+d\,\text{Sin}[e+f x])^3}\,dx$$

Optimal (type 3, 192 leaves, 4 steps):

$$-\frac{\sqrt{a}\,(3 A d+B (c+4 d))\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\sqrt{d}\,\text{Cos}[e+f x]}{\sqrt{c+d}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{4 d^{3/2} (c+d)^{5/2} f}+\frac{a (B c-A d)\,\text{Cos}[e+f x]}{2 d (c+d) f \sqrt{a+a\,\text{Sin}[e+f x]}\,(c+d\,\text{Sin}[e+f x])^2}-\frac{a (3 A d+B (c+4 d))\,\text{Cos}[e+f x]}{4 d (c+d)^2 f \sqrt{a+a\,\text{Sin}[e+f x]}\,(c+d\,\text{Sin}[e+f x])}$$

Result (type 7, 967 leaves):

$$\frac{1}{d^{3/2}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)}\left(\frac{1}{16}+\frac{i}{16}\right)\sqrt{a\,(1+\text{Sin}[e+f x])}\,\left(\frac{1}{(c+d)^{5/2}\,(\text{Cos}[e]+i\,(-1+\text{Sin}[e]))\,\sqrt{\text{Cos}[e]-i\,\text{Sin}[e]}}\right.$$

$$(3 A d+B (c+4 d))\left(\text{Cos}\left[\frac{e}{2}\right]+i\,\text{Sin}\left[\frac{e}{2}\right]\right)$$

$$\left((-1+i)\,x\,\text{Cos}[e]+\frac{1}{4 f}\text{RootSum}\left[-d+2 i c\, e^{i e}\,\#1^2+d\, e^{2 i e}\,\#1^4\,\&,\ \frac{1}{d-i c\, e^{i e}\,\#1^2}\right.\right.$$

$$\left((1+i)\,d\sqrt{e^{-i e}}\,f x-(2-2 i)\,d\sqrt{e^{-i e}}\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]-i\sqrt{d}\,\sqrt{c+d}\,f x\,\#1+\right.$$

$$2\sqrt{d}\,\sqrt{c+d}\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1+\frac{(1-i)\,c f x\,\#1^2}{\sqrt{e^{-i e}}}+\frac{(2+2 i)\,c\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1^2}{\sqrt{e^{-i e}}}-$$

$$\left.\left.\sqrt{d}\,\sqrt{c+d}\,e^{i e} f x\,\#1^3-2 i\sqrt{d}\,\sqrt{c+d}\,e^{i e}\,\text{Log}\left[e^{\frac{i f x}{2}}-\#1\right]\#1^3\right)\&\right]$$

$$\left.(\text{Cos}[e]+i\,(-1+\text{Sin}[e]))\sqrt{\text{Cos}[e]-i\,\text{Sin}[e]}+(1+i)\,x\,\text{Sin}[e]\right)+$$

$$\frac{1}{(c+d)^{5/2}\,(\text{Cos}[e]+i\,(-1+\text{Sin}[e]))\,\sqrt{\text{Cos}[e]-i\,\text{Sin}[e]}}$$

$$(3 A d+B (c+4 d))\left(\text{Cos}\left[\frac{e}{2}\right]+i\,\text{Sin}\left[\frac{e}{2}\right]\right)$$

$$\left((1-i)\,x\,\mathrm{Cos}[e]-(1+i)\,x\,\mathrm{Sin}[e]+\frac{1}{4f}\mathrm{RootSum}\Big[-d+2\,i\,c\,e^{i\,e}\,\sharp1^2+d\,e^{2\,i\,e}\,\sharp1^4\,\&,\right.$$

$$\frac{1}{d-i\,c\,e^{i\,e}\,\sharp1^2}\left((1-i)\,d\,\sqrt{e^{-i\,e}}\,f\,x+(2+2\,i)\,d\,\sqrt{e^{-i\,e}}\,\mathrm{Log}\Big[e^{\frac{i\,f\,x}{2}}-\sharp1\Big]+\right.$$

$$\sqrt{d}\,\sqrt{c+d}\,f\,x\,\sharp1+2\,i\,\sqrt{d}\,\sqrt{c+d}\,\mathrm{Log}\Big[e^{\frac{i\,f\,x}{2}}-\sharp1\Big]\,\sharp1-\frac{(1+i)\,c\,f\,x\,\sharp1^2}{\sqrt{e^{-i\,e}}}+$$

$$\frac{(2-2\,i)\,c\,\mathrm{Log}\Big[e^{\frac{i\,f\,x}{2}}-\sharp1\Big]\,\sharp1^2}{\sqrt{e^{-i\,e}}}-i\,\sqrt{d}\,\sqrt{c+d}\,e^{i\,e}\,f\,x\,\sharp1^3+2\,\sqrt{d}\,\sqrt{c+d}\,e^{i\,e}$$

$$\left.\left.\mathrm{Log}\Big[e^{\frac{i\,f\,x}{2}}-\sharp1\Big]\,\sharp1^3\right)\&\Big]\,\sqrt{\mathrm{Cos}[e]-i\,\mathrm{Sin}[e]}\,(-1-i\,\mathrm{Cos}[e]+\mathrm{Sin}[e])\right)-$$

$$\frac{(4-4\,i)\,\sqrt{d}\,(-B\,c+A\,d)\,\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)}{(c+d)\,f\,(c+d\,\mathrm{Sin}[e+f\,x])^2}-$$

$$\left((2-2\,i)\,\sqrt{d}\,(3\,A\,d+B\,(c+4\,d))\,\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)\right)\Big/$$

$$\left((c+d)^2\,f\,(c+d\,\mathrm{Sin}[e+f\,x])\right)$$

Problem 293: Result more than twice size of optimal antiderivative.

$$\int(a+a\,\mathrm{Sin}[e+f\,x])^{3/2}\,(A+B\,\mathrm{Sin}[e+f\,x])\,(c+d\,\mathrm{Sin}[e+f\,x])^3\,dx$$

Optimal (type 3, 374 leaves, 6 steps):

$$\left(4\,a^2\,(c+d)\,(15\,c^2+10\,c\,d+7\,d^2)\,(11\,A\,(c-17\,d)\,d-3\,B\,(c^2-9\,c\,d+56\,d^2))\,\mathrm{Cos}[e+f\,x]\right)\Big/$$

$$\left(3465\,d^2\,f\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}\right)+\frac{1}{3465\,d\,f}$$

$$8\,a\,(5\,c-d)\,(c+d)\,(11\,A\,(c-17\,d)\,d-3\,B\,(c^2-9\,c\,d+56\,d^2))\,\mathrm{Cos}[e+f\,x]\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}+$$

$$\frac{1}{1155\,f}4\,(c+d)\,(11\,A\,(c-17\,d)\,d-3\,B\,(c^2-9\,c\,d+56\,d^2))\,\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^{3/2}+$$

$$\left(2\,a^2\,(11\,A\,(c-17\,d)\,d-3\,B\,(c^2-9\,c\,d+56\,d^2))\,\mathrm{Cos}[e+f\,x]\,(c+d\,\mathrm{Sin}[e+f\,x])^3\right)\Big/$$

$$\left(693\,d^2\,f\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}\right)+\frac{2\,a^2\,(3\,B\,(c-4\,d)-11\,A\,d)\,\mathrm{Cos}[e+f\,x]\,(c+d\,\mathrm{Sin}[e+f\,x])^4}{99\,d^2\,f\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}}-$$

$$\frac{2\,a\,B\,\mathrm{Cos}[e+f\,x]\,\sqrt{a+a\,\mathrm{Sin}[e+f\,x]}\,(c+d\,\mathrm{Sin}[e+f\,x])^4}{11\,d\,f}$$

Result (type 3, 1101 leaves):

$$\frac{1}{55440 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^3}$$
$$(a (1+\text{Sin}[e+f x]))^{3/2} \Big(-166320 A c^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-110880 B c^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-$$
$$332640 A c^2 d \text{Cos}\left[\frac{1}{2}(e+f x)\right]-291060 B c^2 d \text{Cos}\left[\frac{1}{2}(e+f x)\right]-$$
$$291060 A c d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-249480 B c d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-83160 A d^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-$$
$$76230 B d^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-18480 A c^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-27720 B c^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-$$
$$83160 A c^2 d \text{Cos}\left[\frac{3}{2}(e+f x)\right]-69300 B c^2 d \text{Cos}\left[\frac{3}{2}(e+f x)\right]-69300 A c d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-$$
$$69300 B c d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-23100 A d^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-20790 B d^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+$$
$$5544 B c^3 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+16632 A c^2 d \text{Cos}\left[\frac{5}{2}(e+f x)\right]+24948 B c^2 d \text{Cos}\left[\frac{5}{2}(e+f x)\right]+$$
$$24948 A c d^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+24948 B c d^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+8316 A d^3 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+$$
$$9009 B d^3 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+5940 B c^2 d \text{Cos}\left[\frac{7}{2}(e+f x)\right]+5940 A c d^2 \text{Cos}\left[\frac{7}{2}(e+f x)\right]+$$
$$8910 B c d^2 \text{Cos}\left[\frac{7}{2}(e+f x)\right]+2970 A d^3 \text{Cos}\left[\frac{7}{2}(e+f x)\right]+3465 B d^3 \text{Cos}\left[\frac{7}{2}(e+f x)\right]-$$
$$2310 B c d^2 \text{Cos}\left[\frac{9}{2}(e+f x)\right]-770 A d^3 \text{Cos}\left[\frac{9}{2}(e+f x)\right]-1155 B d^3 \text{Cos}\left[\frac{9}{2}(e+f x)\right]-$$
$$315 B d^3 \text{Cos}\left[\frac{11}{2}(e+f x)\right]+166320 A c^3 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+110880 B c^3 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$332640 A c^2 d \text{Sin}\left[\frac{1}{2}(e+f x)\right]+291060 B c^2 d \text{Sin}\left[\frac{1}{2}(e+f x)\right]+291060 A c d^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$249480 B c d^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+83160 A d^3 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+76230 B d^3 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$18480 A c^3 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-27720 B c^3 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-83160 A c^2 d \text{Sin}\left[\frac{3}{2}(e+f x)\right]-$$
$$69300 B c^2 d \text{Sin}\left[\frac{3}{2}(e+f x)\right]-69300 A c d^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-69300 B c d^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-$$
$$23100 A d^3 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-20790 B d^3 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-5544 B c^3 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-$$
$$16632 A c^2 d \text{Sin}\left[\frac{5}{2}(e+f x)\right]-24948 B c^2 d \text{Sin}\left[\frac{5}{2}(e+f x)\right]-24948 A c d^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-$$
$$24948 B c d^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-8316 A d^3 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-9009 B d^3 \text{Sin}\left[\frac{5}{2}(e+f x)\right]+$$
$$5940 B c^2 d \text{Sin}\left[\frac{7}{2}(e+f x)\right]+5940 A c d^2 \text{Sin}\left[\frac{7}{2}(e+f x)\right]+8910 B c d^2 \text{Sin}\left[\frac{7}{2}(e+f x)\right]+$$
$$2970 A d^3 \text{Sin}\left[\frac{7}{2}(e+f x)\right]+3465 B d^3 \text{Sin}\left[\frac{7}{2}(e+f x)\right]+2310 B c d^2 \text{Sin}\left[\frac{9}{2}(e+f x)\right]+$$
$$770 A d^3 \text{Sin}\left[\frac{9}{2}(e+f x)\right]+1155 B d^3 \text{Sin}\left[\frac{9}{2}(e+f x)\right]-315 B d^3 \text{Sin}\left[\frac{11}{2}(e+f x)\right]\Big)$$

Problem 297: Result more than twice size of optimal antiderivative.

$$\int \frac{(a + a \operatorname{Sin}[e + f x])^{3/2} (A + B \operatorname{Sin}[e + f x])}{c + d \operatorname{Sin}[e + f x]} \, dx$$

Optimal (type 3, 153 leaves, 4 steps):

$$-\frac{2 a^{3/2} (c - d) (B c - A d) \operatorname{ArcTanh}\left[\frac{\sqrt{a} \sqrt{d} \operatorname{Cos}[e+f x]}{\sqrt{c+d} \sqrt{a+a \operatorname{Sin}[e+f x]}}\right]}{d^{5/2} \sqrt{c + d} f} + \frac{2 a^2 (3 B c - 3 A d - 4 B d) \operatorname{Cos}[e + f x]}{3 d^2 f \sqrt{a + a \operatorname{Sin}[e + f x]}} - \frac{2 a B \operatorname{Cos}[e + f x] \sqrt{a + a \operatorname{Sin}[e + f x]}}{3 d f}$$

Result (type 3, 356 leaves):

$$\frac{1}{6 d^{5/2} f \left(\operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] + \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)^3} (a (1 + \operatorname{Sin}[e + f x]))^{3/2} \left(-6 \sqrt{d} (-2 B c + 2 A d + 3 B d) \operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - 2 B d^{3/2} \operatorname{Cos}\left[\frac{3}{2} (e + f x)\right] - \frac{1}{\sqrt{c + d}} 3 (c - d) (B c - A d) \left(e + f x - 2 \operatorname{Log}\left[\operatorname{Sec}\left[\frac{1}{4} (e + f x)\right]^2\right] + 2 \operatorname{Log}\left[-\operatorname{Sec}\left[\frac{1}{4} (e + f x)\right]^2 \left(c + d + \sqrt{d} \sqrt{c + d} \operatorname{Cos}\left[\frac{1}{2} (e + f x)\right] - \sqrt{d} \sqrt{c + d} \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right]\right)\right]\right) + \frac{1}{\sqrt{c + d}} 3 (c - d) (B c - A d) \left(e + f x - 2 \operatorname{Log}\left[\operatorname{Sec}\left[\frac{1}{4} (e + f x)\right]^2\right] + 2 \operatorname{Log}\left[(c + d) \operatorname{Sec}\left[\frac{1}{4} (e + f x)\right]^2 + \sqrt{d} \sqrt{c + d} \left(-1 + 2 \operatorname{Tan}\left[\frac{1}{4} (e + f x)\right] + \operatorname{Tan}\left[\frac{1}{4} (e + f x)\right]^2\right)\right]\right) + 6 \sqrt{d} (-2 B c + 2 A d + 3 B d) \operatorname{Sin}\left[\frac{1}{2} (e + f x)\right] - 2 B d^{3/2} \operatorname{Sin}\left[\frac{3}{2} (e + f x)\right]\right)$$

Problem 300: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int (a + a \operatorname{Sin}[e + f x])^{5/2} (A + B \operatorname{Sin}[e + f x]) (c + d \operatorname{Sin}[e + f x])^3 \, dx$$

Optimal (type 3, 534 leaves, 7 steps):

$$-\Big(\big(4 a^3 (c+d) (15 c^2+10 c d+7 d^2) (13 A d (3 c^2-38 c d+355 d^2)-B (15 c^3-150 c^2 d+799 c d^2-4184 d^3)) \text{Cos}[e+f x]\big) \Big/ \big(45045 d^3 f \sqrt{a+a \text{Sin}[e+f x]}\big)\Big) - \frac{1}{45045 d^2 f} 8 a^2 (5 c-d) (c+d) (13 A d (3 c^2-38 c d+355 d^2)-B (15 c^3-150 c^2 d+799 c d^2-4184 d^3)) \text{Cos}[e+f x] \sqrt{a+a \text{Sin}[e+f x]} - \frac{1}{15015 d f} 4 a (c+d) (13 A d (3 c^2-38 c d+355 d^2)-B (15 c^3-150 c^2 d+799 c d^2-4184 d^3)) \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^{3/2} - \big(2 a^3 (13 A d (3 c^2-38 c d+355 d^2)-B (15 c^3-150 c^2 d+799 c d^2-4184 d^3)) \text{Cos}[e+f x] (c+d \text{Sin}[e+f x])^3\big) \Big/ \big(9009 d^3 f \sqrt{a+a \text{Sin}[e+f x]}\big) - \big(2 a^3 (15 B c^2-39 A c d-75 B c d+299 A d^2+280 B d^2) \text{Cos}[e+f x] (c+d \text{Sin}[e+f x])^4\big) \Big/ \big(1287 d^3 f \sqrt{a+a \text{Sin}[e+f x]}\big) + \frac{1}{143 d^2 f} 2 a^2 (5 B c-13 A d-16 B d) \text{Cos}[e+f x] \sqrt{a+a \text{Sin}[e+f x]} (c+d \text{Sin}[e+f x])^4 - \frac{2 a B \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^{3/2} (c+d \text{Sin}[e+f x])^4}{13 d f}$$

Result (type 3, 1565 leaves):

$$\frac{B d^3 \text{Cos}\left[\frac{13}{2} (e+f x)\right] (a (1+\text{Sin}[e+f x]))^{5/2}}{416 f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5} + \left((40 A c^3+30 B c^3+90 A c^2 d+78 B c^2 d+78 A c d^2+69 B c d^2+23 A d^3+21 B d^3) \left(\left(-\frac{1}{16}-\frac{i}{16}\right) \text{Cos}\left[\frac{1}{2} (e+f x)\right]+\left(\frac{1}{16}-\frac{i}{16}\right) \text{Sin}\left[\frac{1}{2} (e+f x)\right]\right) (a (1+\text{Sin}[e+f x]))^{5/2}\right) \Big/ \left(f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5\right) + \left((40 A c^3+30 B c^3+90 A c^2 d+78 B c^2 d+78 A c d^2+69 B c d^2+23 A d^3+21 B d^3) \left(\left(-\frac{1}{16}+\frac{i}{16}\right) \text{Cos}\left[\frac{1}{2} (e+f x)\right]+\left(\frac{1}{16}+\frac{i}{16}\right) \text{Sin}\left[\frac{1}{2} (e+f x)\right]\right) (a (1+\text{Sin}[e+f x]))^{5/2}\right) \Big/ \left(f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5\right) + \left((80 A c^3+88 B c^3+264 A c^2 d+240 B c^2 d+240 A c d^2+228 B c d^2+76 A d^3+71 B d^3) (a (1+\text{Sin}[e+f x]))^{5/2} \left(\left(-\frac{1}{192}+\frac{i}{192}\right) \text{Cos}\left[\frac{3}{2} (e+f x)\right]-\left(\frac{1}{192}+\frac{i}{192}\right) \text{Sin}\left[\frac{3}{2} (e+f x)\right]\right)\right) \Big/ \left(f \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^5\right) + \left((80 A c^3+88 B c^3+264 A c^2 d+240 B c^2 d+240 A c d^2+228 B c d^2+76 A d^3+71 B d^3) (a (1+\text{Sin}[e+f x]))^{5/2} \left(\left(-\frac{1}{192}-\frac{i}{192}\right) \text{Cos}\left[\frac{3}{2} (e+f x)\right]-\left(\frac{1}{192}-\frac{i}{192}\right) \text{Sin}\left[\frac{3}{2} (e+f x)\right]\right)\right) \Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+$$

$$\Bigg(\left(16 A c^3+40 B c^3+120 A c^2 d+144 B c^2 d+144 A c d^2+150 B c d^2+50 A d^3+51 B d^3\right)$$

$$(a(1+\text{Sin}[e+f x]))^{5/2}\left(\left(\frac{1}{320}-\frac{i}{320}\right)\text{Cos}\left[\frac{5}{2}(e+f x)\right]-\left(\frac{1}{320}+\frac{i}{320}\right)\text{Sin}\left[\frac{5}{2}(e+f x)\right]\right)\Bigg)\Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+$$

$$\Bigg(\left(16 A c^3+40 B c^3+120 A c^2 d+144 B c^2 d+144 A c d^2+150 B c d^2+50 A d^3+51 B d^3\right)$$

$$(a(1+\text{Sin}[e+f x]))^{5/2}\left(\left(\frac{1}{320}+\frac{i}{320}\right)\text{Cos}\left[\frac{5}{2}(e+f x)\right]-\left(\frac{1}{320}-\frac{i}{320}\right)\text{Sin}\left[\frac{5}{2}(e+f x)\right]\right)\Bigg)\Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+$$

$$\Bigg(\left(4 B c^3+12 A c^2 d+30 B c^2 d+30 A c d^2+39 B c d^2+13 A d^3+15 B d^3\right)(a(1+\text{Sin}[e+f x]))^{5/2}$$

$$\left(\left(\frac{1}{224}+\frac{i}{224}\right)\text{Cos}\left[\frac{7}{2}(e+f x)\right]+\left(\frac{1}{224}-\frac{i}{224}\right)\text{Sin}\left[\frac{7}{2}(e+f x)\right]\right)\Bigg)\Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+$$

$$\Bigg(\left(4 B c^3+12 A c^2 d+30 B c^2 d+30 A c d^2+39 B c d^2+13 A d^3+15 B d^3\right)(a(1+\text{Sin}[e+f x]))^{5/2}$$

$$\left(\left(\frac{1}{224}-\frac{i}{224}\right)\text{Cos}\left[\frac{7}{2}(e+f x)\right]+\left(\frac{1}{224}+\frac{i}{224}\right)\text{Sin}\left[\frac{7}{2}(e+f x)\right]\right)\Bigg)\Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+$$

$$\Bigg(\left(6 B c^2+6 A c d+15 B c d+5 A d^2+7 B d^2\right)(a(1+\text{Sin}[e+f x]))^{5/2}$$

$$\left(\left(-\frac{1}{288}-\frac{i}{288}\right)d\,\text{Cos}\left[\frac{9}{2}(e+f x)\right]+\left(\frac{1}{288}-\frac{i}{288}\right)d\,\text{Sin}\left[\frac{9}{2}(e+f x)\right]\right)\Bigg)\Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+$$

$$\Bigg(\left(6 B c^2+6 A c d+15 B c d+5 A d^2+7 B d^2\right)(a(1+\text{Sin}[e+f x]))^{5/2}$$

$$\left(\left(-\frac{1}{288}+\frac{i}{288}\right)d\,\text{Cos}\left[\frac{9}{2}(e+f x)\right]+\left(\frac{1}{288}+\frac{i}{288}\right)d\,\text{Sin}\left[\frac{9}{2}(e+f x)\right]\right)\Bigg)\Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+\Bigg((6 B c+2 A d+5 B d)(a(1+\text{Sin}[e+f x]))^{5/2}$$

$$\left(\left(-\frac{1}{704}+\frac{i}{704}\right)d^2\,\text{Cos}\left[\frac{11}{2}(e+f x)\right]-\left(\frac{1}{704}+\frac{i}{704}\right)d^2\,\text{Sin}\left[\frac{11}{2}(e+f x)\right]\right)\Bigg)\Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+\Bigg((6 B c+2 A d+5 B d)(a(1+\text{Sin}[e+f x]))^{5/2}$$

$$\left(\left(-\frac{1}{704}-\frac{i}{704}\right)d^2\,\text{Cos}\left[\frac{11}{2}(e+f x)\right]-\left(\frac{1}{704}-\frac{i}{704}\right)d^2\,\text{Sin}\left[\frac{11}{2}(e+f x)\right]\right)\Bigg)\Big/$$

$$\left(f\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)-\frac{B d^3 (a (1+\text{Sin}[e+f x]))^{5/2} \text{Sin}\left[\frac{13}{2}(e+f x)\right]}{416 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5}$$

Problem 301: Result more than twice size of optimal antiderivative.

$$\int (a+a \text{Sin}[e+f x])^{5/2} (A+B \text{Sin}[e+f x]) (c+d \text{Sin}[e+f x])^2 \, dx$$

Optimal (type 3, 429 leaves, 6 steps):

$$-\left(\left(2 a^3 \left(15 c^2+10 c d+7 d^2\right) \left(11 A d \left(c^2-10 c d+73 d^2\right)-B \left(5 c^3-40 c^2 d+169 c d^2-710 d^3\right)\right) \text{Cos}[e+f x]\right)\Big/\left(3465 d^3 f \sqrt{a+a \text{Sin}[e+f x]}\right)\right)-\frac{1}{3465 d^2 f}$$
$$4 a^2 (5 c-d) \left(11 A d \left(c^2-10 c d+73 d^2\right)-B \left(5 c^3-40 c^2 d+169 c d^2-710 d^3\right)\right) \text{Cos}[e+f x] \sqrt{a+a \text{Sin}[e+f x]}-\frac{1}{1155 d f}$$
$$2 a \left(11 A d \left(c^2-10 c d+73 d^2\right)-B \left(5 c^3-40 c^2 d+169 c d^2-710 d^3\right)\right) \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^{3/2}+$$
$$\left(2 a^3 \left(11 A (3 c-19 d) d-B \left(15 c^2-65 c d+194 d^2\right)\right) \text{Cos}[e+f x] (c+d \text{Sin}[e+f x])^3\right)\Big/\left(693 d^3 f \sqrt{a+a \text{Sin}[e+f x]}\right)+\frac{1}{99 d^2 f}$$
$$2 a^2 (5 B c-11 A d-14 B d) \text{Cos}[e+f x] \sqrt{a+a \text{Sin}[e+f x]} (c+d \text{Sin}[e+f x])^3-$$
$$\frac{2 a B \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^{3/2} (c+d \text{Sin}[e+f x])^3}{11 d f}$$

Result (type 3, 891 leaves):

$$\frac{1}{55440 f \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5}(a(1+\text{Sin}[e+f x]))^{5/2}$$
$$\Big(-277200 A c^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-207900 B c^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-415800 A c d \text{Cos}\left[\frac{1}{2}(e+f x)\right]-$$
$$360360 B c d \text{Cos}\left[\frac{1}{2}(e+f x)\right]-180180 A d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-159390 B d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-$$
$$46200 A c^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-50820 B c^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-101640 A c d \text{Cos}\left[\frac{3}{2}(e+f x)\right]-$$
$$92400 B c d \text{Cos}\left[\frac{3}{2}(e+f x)\right]-46200 A d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-43890 B d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+$$
$$5544 A c^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+13860 B c^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+27720 A c d \text{Cos}\left[\frac{5}{2}(e+f x)\right]+$$
$$33264 B c d \text{Cos}\left[\frac{5}{2}(e+f x)\right]+16632 A d^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+17325 B d^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+$$
$$1980 B c^2 \text{Cos}\left[\frac{7}{2}(e+f x)\right]+3960 A c d \text{Cos}\left[\frac{7}{2}(e+f x)\right]+9900 B c d \text{Cos}\left[\frac{7}{2}(e+f x)\right]+$$
$$4950 A d^2 \text{Cos}\left[\frac{7}{2}(e+f x)\right]+6435 B d^2 \text{Cos}\left[\frac{7}{2}(e+f x)\right]-1540 B c d \text{Cos}\left[\frac{9}{2}(e+f x)\right]-$$
$$770 A d^2 \text{Cos}\left[\frac{9}{2}(e+f x)\right]-1925 B d^2 \text{Cos}\left[\frac{9}{2}(e+f x)\right]-315 B d^2 \text{Cos}\left[\frac{11}{2}(e+f x)\right]+$$
$$277200 A c^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+207900 B c^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+415800 A c d \text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$360360 B c d \text{Sin}\left[\frac{1}{2}(e+f x)\right]+180180 A d^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+159390 B d^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$46200 A c^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-50820 B c^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-101640 A c d \text{Sin}\left[\frac{3}{2}(e+f x)\right]-$$
$$92400 B c d \text{Sin}\left[\frac{3}{2}(e+f x)\right]-46200 A d^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-43890 B d^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-$$
$$5544 A c^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-13860 B c^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-27720 A c d \text{Sin}\left[\frac{5}{2}(e+f x)\right]-$$
$$33264 B c d \text{Sin}\left[\frac{5}{2}(e+f x)\right]-16632 A d^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-17325 B d^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]+$$
$$1980 B c^2 \text{Sin}\left[\frac{7}{2}(e+f x)\right]+3960 A c d \text{Sin}\left[\frac{7}{2}(e+f x)\right]+9900 B c d \text{Sin}\left[\frac{7}{2}(e+f x)\right]+$$
$$4950 A d^2 \text{Sin}\left[\frac{7}{2}(e+f x)\right]+6435 B d^2 \text{Sin}\left[\frac{7}{2}(e+f x)\right]+1540 B c d \text{Sin}\left[\frac{9}{2}(e+f x)\right]+$$
$$770 A d^2 \text{Sin}\left[\frac{9}{2}(e+f x)\right]+1925 B d^2 \text{Sin}\left[\frac{9}{2}(e+f x)\right]-315 B d^2 \text{Sin}\left[\frac{11}{2}(e+f x)\right]\Big)$$

Problem 302: Result more than twice size of optimal antiderivative.

$$\int (a+a \text{Sin}[e+f x])^{5/2} (A+B \text{Sin}[e+f x]) (c+d \text{Sin}[e+f x]) \, dx$$

Optimal (type 3, 212 leaves, 6 steps):

$$-\frac{64 a^3 (21 A c + 15 B c + 15 A d + 13 B d) \text{Cos}[e + f x]}{315 f \sqrt{a + a \text{Sin}[e + f x]}} -$$
$$\frac{16 a^2 (21 A c + 15 B c + 15 A d + 13 B d) \text{Cos}[e + f x] \sqrt{a + a \text{Sin}[e + f x]}}{315 f} -$$
$$\frac{2 a (21 A c + 15 B c + 15 A d + 13 B d) \text{Cos}[e + f x] (a + a \text{Sin}[e + f x])^{3/2}}{105 f} -$$
$$\frac{2 (9 B c + 9 A d - 2 B d) \text{Cos}[e + f x] (a + a \text{Sin}[e + f x])^{5/2}}{63 f} - \frac{2 B d \text{Cos}[e + f x] (a + a \text{Sin}[e + f x])^{7/2}}{9 a f}$$

Result (type 3, 673 leaves) :

$$-\left(\left(\left((20 A c+15 B c+15 A d+13 B d) \operatorname{Cos}\left[\frac{1}{2}(e+f x)\right](a(1+\operatorname{Sin}[e+f x]))^{5/2}\right)\Big/\left(4 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)\right)-\right.$$

$$\left((10 A c+11 B c+11 A d+10 B d) \operatorname{Cos}\left[\frac{3}{2}(e+f x)\right](a(1+\operatorname{Sin}[e+f x]))^{5/2}\right)\Big/\left(12 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)+$$

$$\frac{(2 A c+5 B c+5 A d+6 B d) \operatorname{Cos}\left[\frac{5}{2}(e+f x)\right](a(1+\operatorname{Sin}[e+f x]))^{5/2}}{20 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5}+$$

$$\frac{(2 B c+2 A d+5 B d) \operatorname{Cos}\left[\frac{7}{2}(e+f x)\right](a(1+\operatorname{Sin}[e+f x]))^{5/2}}{56 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5}-$$

$$\frac{B d \operatorname{Cos}\left[\frac{9}{2}(e+f x)\right](a(1+\operatorname{Sin}[e+f x]))^{5/2}}{72 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5}+$$

$$\left((20 A c+15 B c+15 A d+13 B d) \operatorname{Sin}\left[\frac{1}{2}(e+f x)\right](a(1+\operatorname{Sin}[e+f x]))^{5/2}\right)\Big/\left(4 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)-$$

$$\left((10 A c+11 B c+11 A d+10 B d)(a(1+\operatorname{Sin}[e+f x]))^{5/2} \operatorname{Sin}\left[\frac{3}{2}(e+f x)\right]\right)\Big/\left(12 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5\right)-$$

$$\frac{(2 A c+5 B c+5 A d+6 B d)(a(1+\operatorname{Sin}[e+f x]))^{5/2} \operatorname{Sin}\left[\frac{5}{2}(e+f x)\right]}{20 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5}+$$

$$\frac{(2 B c+2 A d+5 B d)(a(1+\operatorname{Sin}[e+f x]))^{5/2} \operatorname{Sin}\left[\frac{7}{2}(e+f x)\right]}{56 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5}+$$

$$\frac{B d(a(1+\operatorname{Sin}[e+f x]))^{5/2} \operatorname{Sin}\left[\frac{9}{2}(e+f x)\right]}{72 f\left(\operatorname{Cos}\left[\frac{1}{2}(e+f x)\right]+\operatorname{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^5}$$

Problem 304: Result more than twice size of optimal antiderivative.

$$\int \frac{(a+a \operatorname{Sin}[e+f x])^{5/2}(A+B \operatorname{Sin}[e+f x])}{c+d \operatorname{Sin}[e+f x]} \, dx$$

Optimal (type 3, 218 leaves, 5 steps):

$$\frac{2 a^{5/2} (c-d)^2 (B c-A d) \text{ArcTanh}\left[\frac{\sqrt{a} \sqrt{d} \cos[e+f x]}{\sqrt{c+d} \sqrt{a+a \sin[e+f x]}}\right]}{d^{7/2} \sqrt{c+d} f}+\frac{2 a^3 \left(5 A (3 c-7 d) d-B \left(15 c^2-35 c d+32 d^2\right)\right) \cos[e+f x]}{15 d^3 f \sqrt{a+a \sin[e+f x]}}+\frac{2 a^2 (5 B c-5 A d-8 B d) \cos[e+f x] \sqrt{a+a \sin[e+f x]}}{15 d^2 f}-\frac{2 a B \cos[e+f x] (a+a \sin[e+f x])^{3/2}}{5 d f}$$

Result (type 3, 450 leaves):

$$\frac{1}{30 d^{7/2} f \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^5} (a (1+\sin[e+f x]))^{5/2} \left(-30 \sqrt{d} \left(A d (-2 c+5 d)+B \left(2 c^2-5 c d+5 d^2\right)\right) \cos\left[\frac{1}{2}(e+f x)\right]-5 d^{3/2} (-2 B c+2 A d+5 B d) \cos\left[\frac{3}{2}(e+f x)\right]+3 B d^{5/2} \cos\left[\frac{5}{2}(e+f x)\right]+\frac{1}{\sqrt{c+d}} 15 (c-d)^2 (B c-A d) \left(e+f x-2 \text{Log}\left[\sec\left[\frac{1}{4}(e+f x)\right]^2\right]+2 \text{Log}\left[-\sec\left[\frac{1}{4}(e+f x)\right]^2 \left(c+d+\sqrt{d} \sqrt{c+d} \cos\left[\frac{1}{2}(e+f x)\right]-\sqrt{d} \sqrt{c+d} \sin\left[\frac{1}{2}(e+f x)\right]\right)\right]\right)-\frac{1}{\sqrt{c+d}} 15 (c-d)^2 (B c-A d) \left(e+f x-2 \text{Log}\left[\sec\left[\frac{1}{4}(e+f x)\right]^2\right]+2 \text{Log}\left[(c+d) \sec\left[\frac{1}{4}(e+f x)\right]^2+\sqrt{d} \sqrt{c+d} \left(-1+2 \tan\left[\frac{1}{4}(e+f x)\right]+\tan\left[\frac{1}{4}(e+f x)\right]^2\right)\right]\right)+30 \sqrt{d} \left(A d (-2 c+5 d)+B \left(2 c^2-5 c d+5 d^2\right)\right) \sin\left[\frac{1}{2}(e+f x)\right]-5 d^{3/2} (-2 B c+2 A d+5 B d) \sin\left[\frac{3}{2}(e+f x)\right]-3 B d^{5/2} \sin\left[\frac{5}{2}(e+f x)\right]\right)$$

Problem 307: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(A+B \sin[e+f x]) (c+d \sin[e+f x])^3}{\sqrt{a+a \sin[e+f x]}} \, dx$$

Optimal (type 3, 284 leaves, 7 steps):

$$-\frac{\sqrt{2}\,(A-B)\,(c-d)^3\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{\sqrt{a}\,f}-$$
$$\left(4\,\left(7\,A\,d\,\left(21\,c^2-12\,c\,d+7\,d^2\right)+B\,\left(36\,c^3-63\,c^2\,d+144\,c\,d^2-37\,d^3\right)\right)\,\text{Cos}[e+f x]\right)\Big/$$
$$\left(105\,f\,\sqrt{a+a\,\text{Sin}[e+f x]}\right)-\frac{1}{105\,a\,f}$$
$$2\,d\,\left(7\,A\,(9\,c-d)\,d+B\,\left(24\,c^2-15\,c\,d+31\,d^2\right)\right)\,\text{Cos}[e+f x]\,\sqrt{a+a\,\text{Sin}[e+f x]}\,-$$
$$\frac{2\,(6\,B\,c+7\,A\,d-B\,d)\,\text{Cos}[e+f x]\,(c+d\,\text{Sin}[e+f x])^2}{35\,f\,\sqrt{a+a\,\text{Sin}[e+f x]}}-\frac{2\,B\,\text{Cos}[e+f x]\,(c+d\,\text{Sin}[e+f x])^3}{7\,f\,\sqrt{a+a\,\text{Sin}[e+f x]}}$$

Result (type 3, 375 leaves):

$$\frac{1}{420\,f\,\sqrt{a\,(1+\text{Sin}[e+f x])}}\left(\text{Cos}\left[\frac{1}{2}\,(e+f x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f x)\right]\right)$$
$$\left((840+840\,i)\,(-1)^{3/4}\,(A-B)\,(c-d)^3\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)\,(-1)^{3/4}\,\left(-1+\text{Tan}\left[\frac{1}{4}\,(e+f x)\right]\right)\right]-\right.$$
$$105\,\left(4\,A\,d\,\left(6\,c^2-3\,c\,d+2\,d^2\right)+B\,\left(8\,c^3-12\,c^2\,d+24\,c\,d^2-5\,d^3\right)\right)\,\text{Cos}\left[\frac{1}{2}\,(e+f x)\right]-$$
$$35\,d\,\left(2\,A\,(6\,c-d)\,d+B\,\left(12\,c^2-6\,c\,d+5\,d^2\right)\right)\,\text{Cos}\left[\frac{3}{2}\,(e+f x)\right]+$$
$$21\,d^2\,(6\,B\,c+2\,A\,d-B\,d)\,\text{Cos}\left[\frac{5}{2}\,(e+f x)\right]+15\,B\,d^3\,\text{Cos}\left[\frac{7}{2}\,(e+f x)\right]+$$
$$105\,\left(4\,A\,d\,\left(6\,c^2-3\,c\,d+2\,d^2\right)+B\,\left(8\,c^3-12\,c^2\,d+24\,c\,d^2-5\,d^3\right)\right)\,\text{Sin}\left[\frac{1}{2}\,(e+f x)\right]-$$
$$35\,d\,\left(2\,A\,(6\,c-d)\,d+B\,\left(12\,c^2-6\,c\,d+5\,d^2\right)\right)\,\text{Sin}\left[\frac{3}{2}\,(e+f x)\right]+$$
$$\left.21\,d^2\,(-2\,A\,d+B\,(-6\,c+d))\,\text{Sin}\left[\frac{5}{2}\,(e+f x)\right]+15\,B\,d^3\,\text{Sin}\left[\frac{7}{2}\,(e+f x)\right]\right)$$

Problem 308: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{(A+B\,\text{Sin}[e+f x])\,(c+d\,\text{Sin}[e+f x])^2}{\sqrt{a+a\,\text{Sin}[e+f x]}}\,dx$$

Optimal (type 3, 200 leaves, 6 steps):

$$-\frac{\sqrt{2}\,(A-B)\,(c-d)^2\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{\sqrt{a}\,f}-$$
$$\frac{4\,\left(5\,A\,(3\,c-d)\,d+B\,\left(6\,c^2-7\,c\,d+7\,d^2\right)\right)\,\text{Cos}[e+f x]}{15\,f\,\sqrt{a+a\,\text{Sin}[e+f x]}}-$$
$$\frac{2\,d\,(4\,B\,c+5\,A\,d-B\,d)\,\text{Cos}[e+f x]\,\sqrt{a+a\,\text{Sin}[e+f x]}}{15\,a\,f}-\frac{2\,B\,\text{Cos}[e+f x]\,(c+d\,\text{Sin}[e+f x])^2}{5\,f\,\sqrt{a+a\,\text{Sin}[e+f x]}}$$

Result (type 3, 246 leaves):

$$\frac{1}{30 f \sqrt{a\,(1+\text{Sin}[e+f x])}}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left((60+60\,i)\,(-1)^{3/4}\,(A-B)\,(c-d)^2\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]-30\left(A\,(4 c-d)\,d+2 B\,(c^2-c d+d^2)\right)\text{Cos}\left[\frac{1}{2}(e+f x)\right]+5 d\,(-2 A d+B\,(-4 c+d))\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]+3 B d^2\,\text{Cos}\left[\frac{5}{2}(e+f x)\right]+30\left(A\,(4 c-d)\,d+2 B\,(c^2-c d+d^2)\right)\text{Sin}\left[\frac{1}{2}(e+f x)\right]+5 d\,(-2 A d+B\,(-4 c+d))\,\text{Sin}\left[\frac{3}{2}(e+f x)\right]-3 B d^2\,\text{Sin}\left[\frac{5}{2}(e+f x)\right]\right)$$

Problem 309: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(A+B\,\text{Sin}[e+f x])\,(c+d\,\text{Sin}[e+f x])}{\sqrt{a+a\,\text{Sin}[e+f x]}}\,dx$$

Optimal (type 3, 130 leaves, 5 steps):

$$-\frac{\sqrt{2}\,(A-B)\,(c-d)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{\sqrt{a}\,f}-\frac{2\,(3 B c+3 A d-2 B d)\,\text{Cos}[e+f x]}{3 f \sqrt{a+a\,\text{Sin}[e+f x]}}-\frac{2 B d\,\text{Cos}[e+f x]\,\sqrt{a+a\,\text{Sin}[e+f x]}}{3 a f}$$

Result (type 3, 135 leaves):

$$-\left(\left(\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left((-6-6\,i)\,(-1)^{3/4}\,(A-B)\,(c-d)\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]+2\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)(3 B c+3 A d-B d+B d\,\text{Sin}[e+f x])\right)\right)\Big/\left(3 f \sqrt{a\,(1+\text{Sin}[e+f x])}\right)\right)$$

Problem 310: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B\,\text{Sin}[e+f x]}{\sqrt{a+a\,\text{Sin}[e+f x]}}\,dx$$

Optimal (type 3, 79 leaves, 3 steps):

$$-\frac{\sqrt{2}\,(A-B)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{\sqrt{a}\,f}-\frac{2 B\,\text{Cos}[e+f x]}{f \sqrt{a+a\,\text{Sin}[e+f x]}}$$

Result (type 3, 106 leaves):

$$\left(2\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\left((1+i)(-1)^{3/4}(A-B)\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]+B\left(-\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\right)\right)\Big/\left(f\sqrt{a\,(1+\text{Sin}[e+f x])}\right)$$

Problem 311: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B\,\text{Sin}[e+f x]}{\sqrt{a+a\,\text{Sin}[e+f x]}\,(c+d\,\text{Sin}[e+f x])}\,dx$$

Optimal (type 3, 136 leaves, 5 steps):

$$-\frac{\sqrt{2}\,(A-B)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{\sqrt{a}\,(c-d)\,f}-\frac{2\,(B c-A d)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\sqrt{d}\,\text{Cos}[e+f x]}{\sqrt{c+d}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{\sqrt{a}\,(c-d)\,\sqrt{d}\,\sqrt{c+d}\,f}$$

Result (type 3, 238 leaves):

$$\frac{1}{(c-d)\sqrt{d}\sqrt{c+d}\,f\sqrt{a\,(1+\text{Sin}[e+f x])}}\left((-1)^{3/4}\left((2+2 i)(A-B)\sqrt{d}\sqrt{c+d}\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]+(-1)^{1/4}(B c-A d)\left(\text{Log}\left[\text{Sec}\left[\frac{1}{4}(e+f x)\right]^2\left(\sqrt{c+d}+\sqrt{d}\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]-\sqrt{d}\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\right]-\text{Log}\left[\text{Sec}\left[\frac{1}{4}(e+f x)\right]^2\left(\sqrt{c+d}-\sqrt{d}\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\sqrt{d}\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\right]\right)\right)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\right)$$

Problem 312: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B\,\text{Sin}[e+f x]}{\sqrt{a+a\,\text{Sin}[e+f x]}\,(c+d\,\text{Sin}[e+f x])^2}\,dx$$

Optimal (type 3, 207 leaves, 6 steps):

$$-\frac{\sqrt{2}\ (A-B)\ \text{ArcTanh}\left[\frac{\sqrt{a}\ \text{Cos}[e+f x]}{\sqrt{2}\ \sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{\sqrt{a}\ (c-d)^2 f}+\frac{\left(A d\ (3 c+d)-B\ \left(c^2+c d+2 d^2\right)\right)\ \text{ArcTanh}\left[\frac{\sqrt{a}\ \sqrt{d}\ \text{Cos}[e+f x]}{\sqrt{c+d}\ \sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{\sqrt{a}\ (c-d)^2 \sqrt{d}\ (c+d)^{3/2} f}-\frac{(B c-A d)\ \text{Cos}[e+f x]}{\left(c^2-d^2\right) f \sqrt{a+a\,\text{Sin}[e+f x]}\ (c+d\,\text{Sin}[e+f x])}$$

Result (type 3, 374 leaves):

$$\frac{1}{4\ (c-d)^2 f \sqrt{a\ (1+\text{Sin}[e+f x])}}\left(\text{Cos}\left[\frac{1}{2}\ (e+f x)\right]+\text{Sin}\left[\frac{1}{2}\ (e+f x)\right]\right)$$
$$\left((8+8\,i)\ (-1)^{3/4}\ (A-B)\ \text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)\ (-1)^{3/4}\ \left(-1+\text{Tan}\left[\frac{1}{4}\ (e+f x)\right]\right)\right]-\right.$$
$$\frac{1}{\sqrt{d}\ (c+d)^{3/2}}\left(-A d\ (3 c+d)+B\ \left(c^2+c d+2 d^2\right)\right)\ \left(e+f x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\ (e+f x)\right]^2\right]+\right.$$
$$\left.2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\ (e+f x)\right]^2\ \left(\sqrt{c+d}+\sqrt{d}\ \text{Cos}\left[\frac{1}{2}\ (e+f x)\right]-\sqrt{d}\ \text{Sin}\left[\frac{1}{2}\ (e+f x)\right]\right)\right]\right)+$$
$$\frac{1}{\sqrt{d}\ (c+d)^{3/2}}\left(-A d\ (3 c+d)+B\ \left(c^2+c d+2 d^2\right)\right)\ \left(e+f x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\ (e+f x)\right]^2\right]+\right.$$
$$\left.2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\ (e+f x)\right]^2\ \left(\sqrt{c+d}-\sqrt{d}\ \text{Cos}\left[\frac{1}{2}\ (e+f x)\right]+\sqrt{d}\ \text{Sin}\left[\frac{1}{2}\ (e+f x)\right]\right)\right]\right)-$$
$$\left.\frac{4\ (c-d)\ (B c-A d)\ \left(\text{Cos}\left[\frac{1}{2}\ (e+f x)\right]-\text{Sin}\left[\frac{1}{2}\ (e+f x)\right]\right)}{(c+d)\ (c+d\,\text{Sin}[e+f x])}\right)$$

Problem 313: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{A+B\,\text{Sin}[e+f x]}{\sqrt{a+a\,\text{Sin}[e+f x]}\ (c+d\,\text{Sin}[e+f x])^3}\,dx$$

Optimal (type 3, 309 leaves, 7 steps):

$$-\frac{\sqrt{2}\,(A-B)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f\,x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}\right]}{\sqrt{a}\,(c-d)^3\,f}+$$

$$\left(\left(A\,d\,\left(15\,c^2+10\,c\,d+7\,d^2\right)-B\,\left(3\,c^3+6\,c^2\,d+19\,c\,d^2+4\,d^3\right)\right)\right.$$

$$\left.\text{ArcTanh}\left[\frac{\sqrt{a}\,\sqrt{d}\,\text{Cos}[e+f\,x]}{\sqrt{c+d}\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}\right]\right)\Big/\left(4\,\sqrt{a}\,(c-d)^3\,\sqrt{d}\,(c+d)^{5/2}\,f\right)-$$

$$\frac{(B\,c-A\,d)\,\text{Cos}[e+f\,x]}{2\,\left(c^2-d^2\right)\,f\,\sqrt{a+a\,\text{Sin}[e+f\,x]}\,(c+d\,\text{Sin}[e+f\,x])^2}+$$

$$\frac{\left(A\,d\,(7\,c+d)-B\,\left(3\,c^2+c\,d+4\,d^2\right)\right)\,\text{Cos}[e+f\,x]}{4\,\left(c^2-d^2\right)^2\,f\,\sqrt{a+a\,\text{Sin}[e+f\,x]}\,(c+d\,\text{Sin}[e+f\,x])}$$

Result (type 3, 847 leaves) :

$$\left(\left(2+2\,i\right)\,(A-B)\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)\,(-1)^{3/4}\,\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]\,\left(\text{Cos}\left[\frac{1}{4}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{4}\,(e+f\,x)\right]\right)\right]\right.$$
$$\left.\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right)\Big/$$
$$\left(\left((-1)^{1/4}\,c^3-3\,(-1)^{1/4}\,c^2\,d+3\,(-1)^{1/4}\,c\,d^2-(-1)^{1/4}\,d^3\right)\,f\,\sqrt{a\,(1+\text{Sin}[e+f\,x])}\right)-$$
$$\left(\left(-A\,d\,\left(15\,c^2+10\,c\,d+7\,d^2\right)+B\,\left(3\,c^3+6\,c^2\,d+19\,c\,d^2+4\,d^3\right)\right)\,\left(e+f\,x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\right]+\right.\right.$$
$$\left.\left.2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\,\left(\sqrt{c+d}+\sqrt{d}\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\sqrt{d}\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right]\right)$$
$$\left.\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right)\Big/\left(16\,(c-d)^3\,\sqrt{d}\,(c+d)^{5/2}\,f\,\sqrt{a\,(1+\text{Sin}[e+f\,x])}\right)+$$
$$\left(\left(-A\,d\,\left(15\,c^2+10\,c\,d+7\,d^2\right)+B\,\left(3\,c^3+6\,c^2\,d+19\,c\,d^2+4\,d^3\right)\right)\,\left(e+f\,x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\right]+\right.\right.$$
$$\left.\left.2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\,\left(\sqrt{c+d}-\sqrt{d}\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\sqrt{d}\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right]\right)$$
$$\left.\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right)\Big/\left(16\,(c-d)^3\,\sqrt{d}\,(c+d)^{5/2}\,f\,\sqrt{a\,(1+\text{Sin}[e+f\,x])}\right)+$$
$$\left(\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right.$$
$$\left.\left(-B\,c\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+A\,d\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+B\,c\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-A\,d\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right)\Big/$$
$$\left(2\,(c-d)\,(c+d)\,f\,\sqrt{a\,(1+\text{Sin}[e+f\,x])}\,\left(c+d\,\text{Sin}[e+f\,x]\right)^2\right)+$$
$$\left(\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right.$$
$$\left(-3\,B\,c^2\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+7\,A\,c\,d\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-B\,c\,d\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\right.$$
$$A\,d^2\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-4\,B\,d^2\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+3\,B\,c^2\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-7\,A\,c\,d$$
$$\left.\left.\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+B\,c\,d\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-A\,d^2\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+4\,B\,d^2\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right)\Big/$$
$$\left(4\,(c-d)^2\,(c+d)^2\,f\,\sqrt{a\,(1+\text{Sin}[e+f\,x])}\,\left(c+d\,\text{Sin}[e+f\,x]\right)\right)$$

Problem 314: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{(A+B\,\text{Sin}[e+f\,x])\,\left(c+d\,\text{Sin}[e+f\,x]\right)^3}{\left(a+a\,\text{Sin}[e+f\,x]\right)^{3/2}}\,dx$$

Optimal (type 3, 283 leaves, 7 steps):

$$-\frac{(c-d)^2\,(3B\,(c-5d)+A\,(c+11d))\,\mathrm{ArcTanh}\left[\frac{\sqrt{a}\,\mathrm{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\mathrm{Sin}[e+f x]}}\right]}{2\sqrt{2}\,a^{3/2}\,f}+$$

$$\left(d\,(15 A c^2-99 B c^2-120 A c d+168 B c d+65 A d^2-93 B d^2)\,\mathrm{Cos}[e+f x]\right)\Big/\left(15 a f\sqrt{a+a\,\mathrm{Sin}[e+f x]}\right)+\frac{d^2\,(15 A c-51 B c-35 A d+39 B d)\,\mathrm{Cos}[e+f x]\,\sqrt{a+a\,\mathrm{Sin}[e+f x]}}{30 a^2 f}+$$

$$\frac{(5A-9B)\,d\,\mathrm{Cos}[e+f x]\,(c+d\,\mathrm{Sin}[e+f x])^2}{10 a f\sqrt{a+a\,\mathrm{Sin}[e+f x]}}-\frac{(A-B)\,\mathrm{Cos}[e+f x]\,(c+d\,\mathrm{Sin}[e+f x])^3}{2 f\,(a+a\,\mathrm{Sin}[e+f x])^{3/2}}$$

Result (type 3, 684 leaves):

$$\frac{1}{60 f\,(a\,(1+\mathrm{Sin}[e+f x]))^{3/2}}\left(\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]\right)$$
$$\Bigg(-30 A c^3\,\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]+30 B c^3\,\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]+90 A c^2 d\,\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]-$$
$$270 B c^2 d\,\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]-270 A c d^2\,\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]+330 B c d^2\,\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]+$$
$$110 A d^3\,\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]-165 B d^3\,\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]-180 B c^2 d\,\mathrm{Cos}\left[\frac{3}{2}(e+f x)\right]-$$
$$180 A c d^2\,\mathrm{Cos}\left[\frac{3}{2}(e+f x)\right]+210 B c d^2\,\mathrm{Cos}\left[\frac{3}{2}(e+f x)\right]+70 A d^3\,\mathrm{Cos}\left[\frac{3}{2}(e+f x)\right]-$$
$$123 B d^3\,\mathrm{Cos}\left[\frac{3}{2}(e+f x)\right]+30 B c d^2\,\mathrm{Cos}\left[\frac{5}{2}(e+f x)\right]+10 A d^3\,\mathrm{Cos}\left[\frac{5}{2}(e+f x)\right]-$$
$$9 B d^3\,\mathrm{Cos}\left[\frac{5}{2}(e+f x)\right]+3 B d^3\,\mathrm{Cos}\left[\frac{7}{2}(e+f x)\right]+30 A c^3\,\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$30 B c^3\,\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]-90 A c^2 d\,\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]+270 B c^2 d\,\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$270 A c d^2\,\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]-330 B c d^2\,\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]-110 A d^3\,\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$165 B d^3\,\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]+(30+30\,i)\,(-1)^{3/4}\,(c-d)^2\,(3B\,(c-5d)+A\,(c+11d))$$
$$\mathrm{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\mathrm{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\mathrm{Cos}\left[\frac{1}{2}(e+f x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-$$
$$180 B c^2 d\,\mathrm{Sin}\left[\frac{3}{2}(e+f x)\right]-180 A c d^2\,\mathrm{Sin}\left[\frac{3}{2}(e+f x)\right]+210 B c d^2\,\mathrm{Sin}\left[\frac{3}{2}(e+f x)\right]+$$
$$70 A d^3\,\mathrm{Sin}\left[\frac{3}{2}(e+f x)\right]-123 B d^3\,\mathrm{Sin}\left[\frac{3}{2}(e+f x)\right]-30 B c d^2\,\mathrm{Sin}\left[\frac{5}{2}(e+f x)\right]-$$
$$10 A d^3\,\mathrm{Sin}\left[\frac{5}{2}(e+f x)\right]+9 B d^3\,\mathrm{Sin}\left[\frac{5}{2}(e+f x)\right]+3 B d^3\,\mathrm{Sin}\left[\frac{7}{2}(e+f x)\right]\Bigg)$$

Problem 315: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{(A+B\,\mathrm{Sin}[e+f x])\,(c+d\,\mathrm{Sin}[e+f x])^2}{(a+a\,\mathrm{Sin}[e+f x])^{3/2}}\,dx$$

Optimal (type 3, 203 leaves, 6 steps):

$$-\frac{(c-d)\,(A c+3 B c+7 A d-11 B d)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{2\sqrt{2}\,a^{3/2} f}+\frac{d\,(3 A c-15 B c-9 A d+13 B d)\,\text{Cos}[e+f x]}{3 a f\sqrt{a+a\,\text{Sin}[e+f x]}}+\frac{(3 A-7 B)\,d^2\,\text{Cos}[e+f x]\,\sqrt{a+a\,\text{Sin}[e+f x]}}{6 a^2 f}-\frac{(A-B)\,\text{Cos}[e+f x]\,(c+d\,\text{Sin}[e+f x])^2}{2 f\,(a+a\,\text{Sin}[e+f x])^{3/2}}$$

Result (type 3, 357 leaves):

$$\frac{1}{6 f\,(a\,(1+\text{Sin}[e+f x]))^{3/2}}\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)\Bigg(6\,(A-B)\,(c-d)^2\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]-3\,(A-B)\,(c-d)^2\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)+(3+3\,i)\,(-1)^{3/4}\,(c-d)\,(A c+3 B c+7 A d-11 B d)\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2+6 d\,(-4 B c-2 A d+3 B d)\,\text{Cos}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-2 B d^2\,\text{Cos}\left[\frac{3}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-6 d\,(-4 B c-2 A d+3 B d)\,\text{Sin}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2-2 B d^2\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\text{Sin}\left[\frac{3}{2}(e+f x)\right]\Bigg)$$

Problem 316: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{(A+B\,\text{Sin}[e+f x])\,(c+d\,\text{Sin}[e+f x])}{(a+a\,\text{Sin}[e+f x])^{3/2}}\,dx$$

Optimal (type 3, 133 leaves, 5 steps):

$$-\frac{(A c+3 B c+3 A d-7 B d)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{2\sqrt{2}\,a^{3/2} f}-\frac{(A-B)\,(c-d)\,\text{Cos}[e+f x]}{2 f\,(a+a\,\text{Sin}[e+f x])^{3/2}}-\frac{2 B d\,\text{Cos}[e+f x]}{a f\sqrt{a+a\,\text{Sin}[e+f x]}}$$

Result (type 3, 246 leaves):

$$\frac{1}{2 f \left(a \left(1+\text{Sin}[e+f x]\right)\right)^{3/2}} \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) \left(2 (A-B) (c-d) \text{Sin}\left[\frac{1}{2}(e+f x)\right] - (A-B)(c-d)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) + (1+i)(-1)^{3/4}(A c+3 B c+3 A d-7 B d) \text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 - 4 B d \text{Cos}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2 + 4 B d \text{Sin}\left[\frac{1}{2}(e+f x)\right]\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\right)$$

Problem 317: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B \text{Sin}[e+f x]}{\left(a+a \text{Sin}[e+f x]\right)^{3/2}} \, dx$$

Optimal (type 3, 87 leaves, 3 steps):

$$-\frac{(A+3 B) \text{ArcTanh}\left[\frac{\sqrt{a} \text{Cos}[e+f x]}{\sqrt{2} \sqrt{a+a \text{Sin}[e+f x]}}\right]}{2 \sqrt{2} a^{3/2} f} - \frac{(A-B) \text{Cos}[e+f x]}{2 f \left(a+a \text{Sin}[e+f x]\right)^{3/2}}$$

Result (type 3, 150 leaves):

$$\left(\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) \left(2 (A-B) \text{Sin}\left[\frac{1}{2}(e+f x)\right] + (-A+B)\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right) + (1+i)(-1)^{3/4}(A+3 B) \text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+f x)\right]\right)\right] \left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)^2\right)\right) \Big/ \left(2 f \left(a \left(1+\text{Sin}[e+f x]\right)\right)^{3/2}\right)$$

Problem 318: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{A+B \text{Sin}[e+f x]}{\left(a+a \text{Sin}[e+f x]\right)^{3/2} \left(c+d \text{Sin}[e+f x]\right)} \, dx$$

Optimal (type 3, 187 leaves, 6 steps):

$$-\frac{\left(A\,(c-5\,d)+B\,(3\,c+d)\right)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f\,x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}\right]}{2\,\sqrt{2}\,a^{3/2}\,(c-d)^2\,f}+\frac{2\,\sqrt{d}\,(B\,c-A\,d)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\sqrt{d}\,\text{Cos}[e+f\,x]}{\sqrt{c+d}\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}\right]}{a^{3/2}\,(c-d)^2\,\sqrt{c+d}\,f}-\frac{(A-B)\,\text{Cos}[e+f\,x]}{2\,(c-d)\,f\,(a+a\,\text{Sin}[e+f\,x])^{3/2}}$$

Result (type 3, 419 leaves):

$$\frac{1}{2\,(c-d)^2\,f\,\left(a\,(1+\text{Sin}[e+f\,x])\right)^{3/2}}\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\left(2\,(A-B)\,(c-d)\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+(-A+B)\,(c-d)\right.$$
$$\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)+(1+i)\,(-1)^{3/4}\,\left(A\,(c-5\,d)+B\,(3\,c+d)\right)$$
$$\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)\,(-1)^{3/4}\,\left(-1+\text{Tan}\left[\frac{1}{4}\,(e+f\,x)\right]\right)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2+$$
$$\frac{1}{\sqrt{c+d}}\sqrt{d}\,(B\,c-A\,d)\,\left(e+f\,x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\right]+\right.$$
$$\left.2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\,\left(\sqrt{c+d}+\sqrt{d}\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\sqrt{d}\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right]\right)$$
$$\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2+\frac{1}{\sqrt{c+d}}$$
$$\sqrt{d}\,(-B\,c+A\,d)\,\left(e+f\,x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\right]+\right.$$
$$\left.2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\,\left(\sqrt{c+d}-\sqrt{d}\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\sqrt{d}\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right]\right)$$
$$\left.\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^2\right)$$

Problem 319: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{A+B\,\text{Sin}[e+f\,x]}{(a+a\,\text{Sin}[e+f\,x])^{3/2}\,(c+d\,\text{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 3, 292 leaves, 7 steps):

$$-\frac{(A c+3 B c-9 A d+5 B d) \text{ArcTanh}\left[\frac{\sqrt{a} \text{Cos}[e+f x]}{\sqrt{2} \sqrt{a+a \text{Sin}[e+f x]}}\right]}{2 \sqrt{2} a^{3/2} (c-d)^3 f}-\left(\sqrt{d} \left(A d (5 c+3 d)-B \left(3 c^2+3 c d+2 d^2\right)\right) \text{ArcTanh}\left[\frac{\sqrt{a} \sqrt{d} \text{Cos}[e+f x]}{\sqrt{c+d} \sqrt{a+a \text{Sin}[e+f x]}}\right]\right)\Big/\left(a^{3/2} (c-d)^3 (c+d)^{3/2} f\right)-\frac{(A-B) \text{Cos}[e+f x]}{2 (c-d) f (a+a \text{Sin}[e+f x])^{3/2} (c+d \text{Sin}[e+f x])}+\frac{d (B (3 c+d)-A (c+3 d)) \text{Cos}[e+f x]}{2 a (c-d)^2 (c+d) f \sqrt{a+a \text{Sin}[e+f x]} (c+d \text{Sin}[e+f x])}$$

Result (type 3, 745 leaves):

$$\frac{(-A+B) \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^2}{2 (c-d)^2 f (a (1+\text{Sin}[e+f x]))^{3/2}}+$$

$$\left((1+i) (A c+3 B c-9 A d+5 B d) \text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right) (-1)^{3/4} \text{Sec}\left[\frac{1}{4} (e+f x)\right] \left(\text{Cos}\left[\frac{1}{4} (e+f x)\right]-\text{Sin}\left[\frac{1}{4} (e+f x)\right]\right)\right] \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^3\right)\Big/$$
$$\left(\left(2 (-1)^{1/4} c^3-6 (-1)^{1/4} c^2 d+6 (-1)^{1/4} c d^2-2 (-1)^{1/4} d^3\right) f (a (1+\text{Sin}[e+f x]))^{3/2}\right)+$$

$$\left(\sqrt{d} \left(-A d (5 c+3 d)+B \left(3 c^2+3 c d+2 d^2\right)\right) \left(e+f x-2 \text{Log}\left[\text{Sec}\left[\frac{1}{4} (e+f x)\right]^2\right]+2 \text{Log}\left[\text{Sec}\left[\frac{1}{4} (e+f x)\right]^2 \left(\sqrt{c+d}+\sqrt{d} \text{Cos}\left[\frac{1}{2} (e+f x)\right]-\sqrt{d} \text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)\right]\right) \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^3\right)\Big/\left(4 (c-d)^3 (c+d)^{3/2} f (a (1+\text{Sin}[e+f x]))^{3/2}\right)+$$

$$\left(\sqrt{d} \left(A d (5 c+3 d)-B \left(3 c^2+3 c d+2 d^2\right)\right) \left(e+f x-2 \text{Log}\left[\text{Sec}\left[\frac{1}{4} (e+f x)\right]^2\right]+2 \text{Log}\left[\text{Sec}\left[\frac{1}{4} (e+f x)\right]^2 \left(\sqrt{c+d}-\sqrt{d} \text{Cos}\left[\frac{1}{2} (e+f x)\right]+\sqrt{d} \text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)\right]\right) \left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^3\right)\Big/\left(4 (c-d)^3 (c+d)^{3/2} f (a (1+\text{Sin}[e+f x]))^{3/2}\right)+$$

$$\left(\left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right) \left(A \text{Sin}\left[\frac{1}{2} (e+f x)\right]-B \text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)\right)\Big/\left((c-d)^2 f (a (1+\text{Sin}[e+f x]))^{3/2}\right)+$$

$$\left(\left(\text{Cos}\left[\frac{1}{2} (e+f x)\right]+\text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)^3 \left(B c d \text{Cos}\left[\frac{1}{2} (e+f x)\right]-A d^2 \text{Cos}\left[\frac{1}{2} (e+f x)\right]-B c d \text{Sin}\left[\frac{1}{2} (e+f x)\right]+A d^2 \text{Sin}\left[\frac{1}{2} (e+f x)\right]\right)\right)\Big/\left((c-d)^2 (c+d) f (a (1+\text{Sin}[e+f x]))^{3/2} (c+d \text{Sin}[e+f x])\right)$$

Problem 320: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{A+B\,\text{Sin}[e+f x]}{(a+a\,\text{Sin}[e+f x])^{3/2}\,(c+d\,\text{Sin}[e+f x])^3}\,dx$$

Optimal (type 3, 402 leaves, 8 steps):

$$-\frac{(A\,(c-13\,d)+3\,B\,(c+3\,d))\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]}{2\,\sqrt{2}\,a^{3/2}\,(c-d)^4\,f}-\left(\sqrt{d}\,\left(A\,d\,(35\,c^2+42\,c\,d+19\,d^2)-3\,B\,(5\,c^3+10\,c^2\,d+13\,c\,d^2+4\,d^3)\right)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\sqrt{d}\,\text{Cos}[e+f x]}{\sqrt{c+d}\,\sqrt{a+a\,\text{Sin}[e+f x]}}\right]\right)\Big/\left(4\,a^{3/2}\,(c-d)^4\,(c+d)^{5/2}\,f\right)-\frac{(A-B)\,\text{Cos}[e+f x]}{2\,(c-d)\,f\,(a+a\,\text{Sin}[e+f x])^{3/2}\,(c+d\,\text{Sin}[e+f x])^2}+\frac{d\,(B\,(2\,c+d)-A\,(c+2\,d))\,\text{Cos}[e+f x]}{2\,a\,(c-d)^2\,(c+d)\,f\,\sqrt{a+a\,\text{Sin}[e+f x]}\,(c+d\,\text{Sin}[e+f x])^2}+\frac{d\,\left(3\,B\,(3\,c^2+3\,c\,d+2\,d^2)-A\,(2\,c^2+15\,c\,d+7\,d^2)\right)\,\text{Cos}[e+f x]}{4\,a\,(c-d)^3\,(c+d)^2\,f\,\sqrt{a+a\,\text{Sin}[e+f x]}\,(c+d\,\text{Sin}[e+f x])}$$

Result (type 3, 1395 leaves):

$$\Bigg((1+i)\,(A\,c+3\,B\,c-13\,A\,d+9\,B\,d)\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)\,(-1)^{3/4}\,\text{Sec}\left[\frac{1}{4}\,(e+f x)\right]\,\left(\text{Cos}\left[\frac{1}{4}\,(e+f x)\right]-\text{Sin}\left[\frac{1}{4}\,(e+f x)\right]\right)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f x)\right]\right)^3\Bigg)\Big/\left(\left(2\,(-1)^{1/4}\,c^4-8\,(-1)^{1/4}\,c^3\,d+12\,(-1)^{1/4}\,c^2\,d^2-8\,(-1)^{1/4}\,c\,d^3+2\,(-1)^{1/4}\,d^4\right)\,f\,(a\,(1+\text{Sin}[e+f x]))^{3/2}\right)+$$

$$\Bigg(\sqrt{d}\,\left(-A\,d\,(35\,c^2+42\,c\,d+19\,d^2)+3\,B\,(5\,c^3+10\,c^2\,d+13\,c\,d^2+4\,d^3)\right)\,\left(e+f x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f x)\right]^2\right]+2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f x)\right]^2\,\left(\sqrt{c+d}+\sqrt{d}\,\text{Cos}\left[\frac{1}{2}\,(e+f x)\right]-\sqrt{d}\,\text{Sin}\left[\frac{1}{2}\,(e+f x)\right]\right)\right]\right)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f x)\right]\right)^3\Bigg)\Big/\left(16\,(c-d)^4\,(c+d)^{5/2}\,f\,(a\,(1+\text{Sin}[e+f x]))^{3/2}\right)-$$

$$\Bigg(\sqrt{d}\,\left(-A\,d\,(35\,c^2+42\,c\,d+19\,d^2)+3\,B\,(5\,c^3+10\,c^2\,d+13\,c\,d^2+4\,d^3)\right)\,\left(e+f x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f x)\right]^2\right]+\right.$$

$$2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\,\left(\sqrt{c+d}-\sqrt{d}\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\sqrt{d}\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right]\Big)$$
$$\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^3\Big/\left(16\,(c-d)^4\,(c+d)^{5/2}\,f\,\left(a\,(1+\text{Sin}[e+f\,x])\right)^{3/2}\right)+$$
$$\frac{1}{16\,(c-d)^3\,(c+d)^2\,f\,\left(a\,(1+\text{Sin}[e+f\,x])\right)^{3/2}\,(c+d\,\text{Sin}[e+f\,x])^2}$$
$$\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)$$
$$\Big(-8\,A\,c^4\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+8\,B\,c^4\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-8\,A\,c^3\,d\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+$$
$$26\,B\,c^3\,d\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-22\,A\,c^2\,d^2\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+6\,B\,c^2\,d^2\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-$$
$$10\,A\,c\,d^3\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+4\,B\,c\,d^3\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+4\,B\,d^4\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-$$
$$8\,A\,c^3\,d\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+26\,B\,c^3\,d\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-40\,A\,c^2\,d^2\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+$$
$$31\,B\,c^2\,d^2\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]-25\,A\,c\,d^3\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+13\,B\,c\,d^3\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+$$
$$A\,d^4\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+2\,B\,d^4\,\text{Cos}\left[\frac{3}{2}\,(e+f\,x)\right]+2\,A\,c^2\,d^2\,\text{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]-$$
$$9\,B\,c^2\,d^2\,\text{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]+15\,A\,c\,d^3\,\text{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]-9\,B\,c\,d^3\,\text{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]+7\,A\,d^4$$
$$\text{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]-6\,B\,d^4\,\text{Cos}\left[\frac{5}{2}\,(e+f\,x)\right]+8\,A\,c^4\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-8\,B\,c^4\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+$$
$$8\,A\,c^3\,d\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-26\,B\,c^3\,d\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+22\,A\,c^2\,d^2\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-$$
$$6\,B\,c^2\,d^2\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]+10\,A\,c\,d^3\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-4\,B\,c\,d^3\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-$$
$$4\,B\,d^4\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]-8\,A\,c^3\,d\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+26\,B\,c^3\,d\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-$$
$$40\,A\,c^2\,d^2\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+31\,B\,c^2\,d^2\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-25\,A\,c\,d^3\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+$$
$$13\,B\,c\,d^3\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+A\,d^4\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+2\,B\,d^4\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-$$
$$2\,A\,c^2\,d^2\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+9\,B\,c^2\,d^2\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-15\,A\,c\,d^3\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+$$
$$9\,B\,c\,d^3\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-7\,A\,d^4\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+6\,B\,d^4\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]\Big)$$

Problem 321: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{(A+B\,\text{Sin}[e+f\,x])\,(c+d\,\text{Sin}[e+f\,x])^3}{(a+a\,\text{Sin}[e+f\,x])^{5/2}}\,dx$$

Optimal (type 3, 308 leaves, 7 steps):

$$-\frac{1}{16\sqrt{2}\,a^{5/2}\,f}\left(c-d\right)\left(B\left(5c^2+62cd-163d^2\right)+3A\left(c^2+6cd+25d^2\right)\right)\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+fx]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+fx]}}\right]+$$

$$\frac{d\left(A\left(9c^2+36cd-93d^2\right)+B\left(15c^2-228cd+197d^2\right)\right)\text{Cos}[e+fx]}{24a^2f\sqrt{a+a\,\text{Sin}[e+fx]}}+$$

$$\frac{d^2\left(9Ac+15Bc+39Ad-95Bd\right)\text{Cos}[e+fx]\sqrt{a+a\,\text{Sin}[e+fx]}}{48a^3f}-$$

$$\frac{\left(3Ac+5Bc+9Ad-17Bd\right)\text{Cos}[e+fx]\left(c+d\,\text{Sin}[e+fx]\right)^2}{16af\left(a+a\,\text{Sin}[e+fx]\right)^{3/2}}-$$

$$\frac{(A-B)\,\text{Cos}[e+fx]\left(c+d\,\text{Sin}[e+fx]\right)^3}{4f\left(a+a\,\text{Sin}[e+fx]\right)^{5/2}}$$

Result (type 3, 523 leaves):

$$\frac{1}{48f\left(a\left(1+\text{Sin}[e+fx]\right)\right)^{5/2}}\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)$$

$$\left(24(A-B)(c-d)^3\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]-12(A-B)(c-d)^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)+6\right.$$

$$(c-d)^2\left(B(5c-29d)+3A(c+7d)\right)\text{Sin}\left[\frac{1}{2}(e+fx)\right]\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^2-$$

$$3(c-d)^2\left(B(5c-29d)+3A(c+7d)\right)\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^3+$$

$$(3+3i)(-1)^{3/4}(c-d)\left(B\left(5c^2+62cd-163d^2\right)+3A\left(c^2+6cd+25d^2\right)\right)$$

$$\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+fx)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4-$$

$$16Bd^3\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4+$$

$$(24+24i)\,d^2\left(-6Bc-2Ad+5Bd\right)\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+i\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)$$

$$\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4+(24+24i)\,d^2\left(6Bc+2Ad-5Bd\right)$$

$$\left(i\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4-$$

$$\left.16Bd^3\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4\text{Sin}\left[\frac{3}{2}(e+fx)\right]\right)$$

Problem 322: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int\frac{\left(A+B\,\text{Sin}[e+fx]\right)\left(c+d\,\text{Sin}[e+fx]\right)^2}{\left(a+a\,\text{Sin}[e+fx]\right)^{5/2}}\,dx$$

Optimal (type 3, 219 leaves, 6 steps):

$$-\frac{1}{16\sqrt{2}\,a^{5/2}\,f}\left(B\left(5c^2+38cd-75d^2\right)+A\left(3c^2+10cd+19d^2\right)\right)\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+fx]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+fx]}}\right]-\frac{(c-d)\,(3Ac+5Bc+5Ad-13Bd)\,\text{Cos}[e+fx]}{16af\,(a+a\,\text{Sin}[e+fx])^{3/2}}+\frac{(A-9B)\,d^2\,\text{Cos}[e+fx]}{4a^2f\sqrt{a+a\,\text{Sin}[e+fx]}}-\frac{(A-B)\,\text{Cos}[e+fx]\,(c+d\,\text{Sin}[e+fx])^2}{4f\,(a+a\,\text{Sin}[e+fx])^{5/2}}$$

Result (type 3, 544 leaves):

$$\frac{1}{32f\,(a\,(1+\text{Sin}[e+fx]))^{5/2}}\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)\Bigg(-11Ac^2\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]+3Bc^2\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]+6Acd\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]+10Bcd\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]+5Ad^2\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]-45Bd^2\,\text{Cos}\left[\frac{1}{2}(e+fx)\right]-3Ac^2\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]-5Bc^2\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]-10Acd\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]+26Bcd\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]+13Ad^2\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]-69Bd^2\,\text{Cos}\left[\frac{3}{2}(e+fx)\right]+16Bd^2\,\text{Cos}\left[\frac{5}{2}(e+fx)\right]+11Ac^2\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]-3Bc^2\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]-6Acd\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]-10Bcd\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]-5Ad^2\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]+45Bd^2\,\text{Sin}\left[\frac{1}{2}(e+fx)\right]+(2+2i)(-1)^{3/4}\left(B\left(5c^2+38cd-75d^2\right)+A\left(3c^2+10cd+19d^2\right)\right)\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\text{Tan}\left[\frac{1}{4}(e+fx)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}(e+fx)\right]+\text{Sin}\left[\frac{1}{2}(e+fx)\right]\right)^4-3Ac^2\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]-5Bc^2\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]-10Acd\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]+26Bcd\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]+13Ad^2\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]-69Bd^2\,\text{Sin}\left[\frac{3}{2}(e+fx)\right]-16Bd^2\,\text{Sin}\left[\frac{5}{2}(e+fx)\right]\Bigg)$$

Problem 323: Result unnecessarily involves imaginary or complex numbers.

$$\int\frac{(A+B\,\text{Sin}[e+fx])\,(c+d\,\text{Sin}[e+fx])}{(a+a\,\text{Sin}[e+fx])^{5/2}}\,dx$$

Optimal (type 3, 151 leaves, 5 steps):

$$-\frac{(3 A c+5 B c+5 A d+19 B d) \text{ArcTanh}\left[\frac{\sqrt{a} \cos[e+f x]}{\sqrt{2} \sqrt{a+a \sin[e+f x]}}\right]}{16 \sqrt{2} a^{5/2} f}-\frac{(A-B)(c-d) \cos[e+f x]}{4 f (a+a \sin[e+f x])^{5/2}}-\frac{(3 A c+5 B c+5 A d-13 B d) \cos[e+f x]}{16 a f (a+a \sin[e+f x])^{3/2}}$$

Result (type 3, 267 leaves):

$$\frac{1}{16 f (a (1+\sin[e+f x]))^{5/2}}\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)$$
$$\left(8 (A-B)(c-d) \sin\left[\frac{1}{2}(e+f x)\right]-4 (A-B)(c-d)\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)+\right.$$
$$2 (3 A c+5 B c+5 A d-13 B d) \sin\left[\frac{1}{2}(e+f x)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2-$$
$$(3 A c+5 B c+5 A d-13 B d)\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^3+$$
$$(1+i)(-1)^{3/4}(3 A c+5 B c+5 A d+19 B d)$$
$$\left.\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\tan\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^4\right)$$

Problem 324: Result unnecessarily involves imaginary or complex numbers.

$$\int \frac{A+B \sin[e+f x]}{(a+a \sin[e+f x])^{5/2}} \, dx$$

Optimal (type 3, 126 leaves, 4 steps):

$$-\frac{(3 A+5 B) \text{ArcTanh}\left[\frac{\sqrt{a} \cos[e+f x]}{\sqrt{2} \sqrt{a+a \sin[e+f x]}}\right]}{16 \sqrt{2} a^{5/2} f}-\frac{(A-B) \cos[e+f x]}{4 f (a+a \sin[e+f x])^{5/2}}-\frac{(3 A+5 B) \cos[e+f x]}{16 a f (a+a \sin[e+f x])^{3/2}}$$

Result (type 3, 227 leaves):

$$\frac{1}{16 f (a (1+\sin[e+f x]))^{5/2}}\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)$$
$$\left(8 (A-B) \sin\left[\frac{1}{2}(e+f x)\right]+4 (-A+B)\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)+\right.$$
$$2 (3 A+5 B) \sin\left[\frac{1}{2}(e+f x)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2-$$
$$(3 A+5 B)\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^3+(1+i)(-1)^{3/4}(3 A+5 B)$$
$$\left.\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\tan\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^4\right)$$

Problem 325: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{A + B \sin[e + f x]}{(a + a \sin[e + f x])^{5/2} (c + d \sin[e + f x])} \, dx$$

Optimal (type 3, 261 leaves, 7 steps):

$$-\left(\left(\left(B\left(5 c^2-34 c d-3 d^2\right)+A\left(3 c^2-14 c d+43 d^2\right)\right) \text{ArcTanh}\left[\frac{\sqrt{a} \cos[e+f x]}{\sqrt{2} \sqrt{a+a \sin[e+f x]}}\right]\right) \Big/ \left(16 \sqrt{2}\, a^{5/2} (c-d)^3 f\right)\right)-\frac{2 d^{3/2} (B c-A d) \text{ArcTanh}\left[\frac{\sqrt{a} \sqrt{d} \cos[e+f x]}{\sqrt{c+d} \sqrt{a+a \sin[e+f x]}}\right]}{a^{5/2} (c-d)^3 \sqrt{c+d}\, f}-\frac{(A-B) \cos[e+f x]}{4 (c-d) f (a+a \sin[e+f x])^{5/2}}-\frac{(3 A c+5 B c-11 A d+3 B d) \cos[e+f x]}{16 a (c-d)^2 f (a+a \sin[e+f x])^{3/2}}$$

Result (type 3, 550 leaves):

$$\frac{1}{16 (c-d)^3 f (a (1+\sin[e+f x]))^{5/2}}\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)\Bigg(8 (A-B) (c-d)^2 \sin\left[\frac{1}{2}(e+f x)\right]+4 (-A+B) (c-d)^2 \left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)+$$
$$2 (c-d) (3 A c+5 B c-11 A d+3 B d) \sin\left[\frac{1}{2}(e+f x)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^2-$$
$$(c-d) (3 A c+5 B c-11 A d+3 B d)\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^3+$$
$$(1+i) (-1)^{3/4}\left(B\left(5 c^2-34 c d-3 d^2\right)+A\left(3 c^2-14 c d+43 d^2\right)\right)$$
$$\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)(-1)^{3/4}\left(-1+\tan\left[\frac{1}{4}(e+f x)\right]\right)\right]\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^4+$$
$$\frac{1}{\sqrt{c+d}} 8 d^{3/2} (-B c+A d)\Bigg(e+f x-2 \text{Log}\left[\sec\left[\frac{1}{4}(e+f x)\right]^2\right]+$$
$$2 \text{Log}\left[\sec\left[\frac{1}{4}(e+f x)\right]^2\left(\sqrt{c+d}+\sqrt{d} \cos\left[\frac{1}{2}(e+f x)\right]-\sqrt{d} \sin\left[\frac{1}{2}(e+f x)\right]\right)\right]\Bigg)$$
$$\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^4+\frac{1}{\sqrt{c+d}}$$
$$8 d^{3/2} (B c-A d)\Bigg(e+f x-2 \text{Log}\left[\sec\left[\frac{1}{4}(e+f x)\right]^2\right]+$$
$$2 \text{Log}\left[\sec\left[\frac{1}{4}(e+f x)\right]^2\left(\sqrt{c+d}-\sqrt{d} \cos\left[\frac{1}{2}(e+f x)\right]+\sqrt{d} \sin\left[\frac{1}{2}(e+f x)\right]\right)\right]\Bigg)$$
$$\left(\cos\left[\frac{1}{2}(e+f x)\right]+\sin\left[\frac{1}{2}(e+f x)\right]\right)^4\Bigg)$$

Problem 326: Result unnecessarily involves complex numbers and more than

twice size of optimal antiderivative.

$$\int \frac{A+B\,\text{Sin}[e+f\,x]}{(a+a\,\text{Sin}[e+f\,x])^{5/2}\,(c+d\,\text{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 3, 395 leaves, 8 steps):

$$-\left(\left(\left(B\,(5\,c^2-58\,c\,d-43\,d^2)+A\,(3\,c^2-22\,c\,d+115\,d^2)\right)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\text{Cos}[e+f\,x]}{\sqrt{2}\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}\right]\right)\Big/\left(16\,\sqrt{2}\,a^{5/2}\,(c-d)^4\,f\right)\right)+\left(d^{3/2}\,\left(A\,d\,(7\,c+5\,d)-B\,(5\,c^2+5\,c\,d+2\,d^2)\right)\,\text{ArcTanh}\left[\frac{\sqrt{a}\,\sqrt{d}\,\text{Cos}[e+f\,x]}{\sqrt{c+d}\,\sqrt{a+a\,\text{Sin}[e+f\,x]}}\right]\right)\Big/\left(a^{5/2}\,(c-d)^4\,(c+d)^{3/2}\,f\right)-\frac{(A-B)\,\text{Cos}[e+f\,x]}{4\,(c-d)\,f\,(a+a\,\text{Sin}[e+f\,x])^{5/2}\,(c+d\,\text{Sin}[e+f\,x])}-\frac{(3\,A\,c+5\,B\,c-15\,A\,d+7\,B\,d)\,\text{Cos}[e+f\,x]}{16\,a\,(c-d)^2\,f\,(a+a\,\text{Sin}[e+f\,x])^{3/2}\,(c+d\,\text{Sin}[e+f\,x])}-\frac{d\,\left(A\,(3\,c^2-16\,c\,d-35\,d^2)+B\,(5\,c^2+32\,c\,d+11\,d^2)\right)\,\text{Cos}[e+f\,x]}{16\,a^2\,(c-d)^3\,(c+d)\,f\,\sqrt{a+a\,\text{Sin}[e+f\,x]}\,(c+d\,\text{Sin}[e+f\,x])}$$

Result (type 3, 1318 leaves):

$$\left(\left((1+i)\,(3\,A\,c^2+5\,B\,c^2-22\,A\,c\,d-58\,B\,c\,d+115\,A\,d^2-43\,B\,d^2)\,\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)\,(-1)^{3/4}\,\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]\,\left(\text{Cos}\left[\frac{1}{4}\,(e+f\,x)\right]-\text{Sin}\left[\frac{1}{4}\,(e+f\,x)\right]\right)\right]\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5\right)\Big/\left(\left(16\,(-1)^{1/4}\,c^4-64\,(-1)^{1/4}\,c^3\,d+96\,(-1)^{1/4}\,c^2\,d^2-64\,(-1)^{1/4}\,c\,d^3+16\,(-1)^{1/4}\,d^4\right)\,f\,(a\,(1+\text{Sin}[e+f\,x]))^{5/2}\right)+\left(d^{3/2}\,\left(A\,d\,(7\,c+5\,d)-B\,(5\,c^2+5\,c\,d+2\,d^2)\right)\,\left(e+f\,x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\right]+2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\,\left(\sqrt{c+d}+\sqrt{d}\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]-\sqrt{d}\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right]\right)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5\right)\Big/\left(4\,(c-d)^4\,(c+d)^{3/2}\,f\,(a\,(1+\text{Sin}[e+f\,x]))^{5/2}\right)+\left(d^{3/2}\,\left(-A\,d\,(7\,c+5\,d)+B\,(5\,c^2+5\,c\,d+2\,d^2)\right)\,\left(e+f\,x-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\right]+2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\,(e+f\,x)\right]^2\,\left(\sqrt{c+d}-\sqrt{d}\,\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\sqrt{d}\,\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)\right]\right)\,\left(\text{Cos}\left[\frac{1}{2}\,(e+f\,x)\right]+\text{Sin}\left[\frac{1}{2}\,(e+f\,x)\right]\right)^5\right)\Big/\left(4\,(c-d)^4\,(c+d)^{3/2}\,f\,(a\,(1+\text{Sin}[e+f\,x]))^{5/2}\right)+\frac{1}{64\,(c-d)^3\,(c+d)\,f\,(a\,(1+\text{Sin}[e+f\,x]))^{5/2}\,(c+d\,\text{Sin}[e+f\,x])}$$

$$\left(\text{Cos}\left[\frac{1}{2}(e+f x)\right]+\text{Sin}\left[\frac{1}{2}(e+f x)\right]\right)$$
$$\left(-22 A c^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]+6 B c^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]+40 A c^2 d \text{Cos}\left[\frac{1}{2}(e+f x)\right]-\right.$$
$$40 B c^2 d \text{Cos}\left[\frac{1}{2}(e+f x)\right]+54 A c d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-70 B c d^2 \text{Cos}\left[\frac{1}{2}(e+f x)\right]+$$
$$24 A d^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]+8 B d^3 \text{Cos}\left[\frac{1}{2}(e+f x)\right]-6 A c^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-$$
$$10 B c^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+21 A c^2 d \text{Cos}\left[\frac{3}{2}(e+f x)\right]-29 B c^2 d \text{Cos}\left[\frac{3}{2}(e+f x)\right]+$$
$$54 A c d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-86 B c d^2 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+75 A d^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]-$$
$$19 B d^3 \text{Cos}\left[\frac{3}{2}(e+f x)\right]+3 A c^2 d \text{Cos}\left[\frac{5}{2}(e+f x)\right]+5 B c^2 d \text{Cos}\left[\frac{5}{2}(e+f x)\right]-$$
$$16 A c d^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+32 B c d^2 \text{Cos}\left[\frac{5}{2}(e+f x)\right]-35 A d^3 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+$$
$$11 B d^3 \text{Cos}\left[\frac{5}{2}(e+f x)\right]+22 A c^3 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-6 B c^3 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$40 A c^2 d \text{Sin}\left[\frac{1}{2}(e+f x)\right]+40 B c^2 d \text{Sin}\left[\frac{1}{2}(e+f x)\right]-54 A c d^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]+$$
$$70 B c d^2 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-24 A d^3 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-8 B d^3 \text{Sin}\left[\frac{1}{2}(e+f x)\right]-$$
$$6 A c^3 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-10 B c^3 \text{Sin}\left[\frac{3}{2}(e+f x)\right]+21 A c^2 d \text{Sin}\left[\frac{3}{2}(e+f x)\right]-$$
$$29 B c^2 d \text{Sin}\left[\frac{3}{2}(e+f x)\right]+54 A c d^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-$$
$$86 B c d^2 \text{Sin}\left[\frac{3}{2}(e+f x)\right]+75 A d^3 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-19 B d^3 \text{Sin}\left[\frac{3}{2}(e+f x)\right]-$$
$$3 A c^2 d \text{Sin}\left[\frac{5}{2}(e+f x)\right]-5 B c^2 d \text{Sin}\left[\frac{5}{2}(e+f x)\right]+16 A c d^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-$$
$$\left.32 B c d^2 \text{Sin}\left[\frac{5}{2}(e+f x)\right]+35 A d^3 \text{Sin}\left[\frac{5}{2}(e+f x)\right]-11 B d^3 \text{Sin}\left[\frac{5}{2}(e+f x)\right]\right)$$

Problem 327: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int \frac{A+B \text{Sin}[e+f x]}{(a+a \text{Sin}[e+f x])^{5/2} (c+d \text{Sin}[e+f x])^3} \, dx$$

Optimal (type 3, 519 leaves, 9 steps):

$$-\left(\left(\left(B\left(5c^2-82cd-115d^2\right)+3A\left(c^2-10cd+73d^2\right)\right)\text{ArcTanh}\left[\frac{\sqrt{a}\ \text{Cos}[e+fx]}{\sqrt{2}\ \sqrt{a+a\,\text{Sin}[e+fx]}}\right]\right)\Big/\left(16\sqrt{2}\ a^{5/2}\left(c-d\right)^5 f\right)\right)+\left(d^{3/2}\left(3Ad\left(21c^2+30cd+13d^2\right)-B\left(35c^3+70c^2d+67cd^2+20d^3\right)\right)\text{ArcTanh}\left[\frac{\sqrt{a}\ \sqrt{d}\ \text{Cos}[e+fx]}{\sqrt{c+d}\ \sqrt{a+a\,\text{Sin}[e+fx]}}\right]\right)\Big/\left(4a^{5/2}\left(c-d\right)^5\left(c+d\right)^{5/2}f\right)-\frac{(A-B)\,\text{Cos}[e+fx]}{4\left(c-d\right)f\left(a+a\,\text{Sin}[e+fx]\right)^{5/2}\left(c+d\,\text{Sin}[e+fx]\right)^2}-\frac{\left(3Ac+5Bc-19Ad+11Bd\right)\text{Cos}[e+fx]}{16a\left(c-d\right)^2 f\left(a+a\,\text{Sin}[e+fx]\right)^{3/2}\left(c+d\,\text{Sin}[e+fx]\right)^2}-\frac{d\left(A\left(3c^2-20cd-31d^2\right)+B\left(5c^2+28cd+15d^2\right)\right)\text{Cos}[e+fx]}{16a^2\left(c-d\right)^3\left(c+d\right)f\sqrt{a+a\,\text{Sin}[e+fx]}\left(c+d\,\text{Sin}[e+fx]\right)^2}-\left(d\left(3A\left(c^3-7c^2d-37cd^2-21d^3\right)+B\left(5c^3+73c^2d+79cd^2+35d^3\right)\right)\text{Cos}[e+fx]\right)\Big/\left(16a^2\left(c-d\right)^4\left(c+d\right)^2 f\sqrt{a+a\,\text{Sin}[e+fx]}\left(c+d\,\text{Sin}[e+fx]\right)\right)$$

Result (type 3, 2103 leaves):

$$\left(\left(1+i\right)\left(3Ac^2+5Bc^2-30Acd-82Bcd+219Ad^2-115Bd^2\right)\text{ArcTanh}\left[\left(\frac{1}{2}+\frac{i}{2}\right)\left(-1\right)^{3/4}\text{Sec}\left[\frac{1}{4}\left(e+fx\right)\right]\left(\text{Cos}\left[\frac{1}{4}\left(e+fx\right)\right]-\text{Sin}\left[\frac{1}{4}\left(e+fx\right)\right]\right)\right]\left(\text{Cos}\left[\frac{1}{2}\left(e+fx\right)\right]+\text{Sin}\left[\frac{1}{2}\left(e+fx\right)\right]\right)^5\right)\Big/\left(\left(16\left(-1\right)^{1/4}c^5-80\left(-1\right)^{1/4}c^4d+160\left(-1\right)^{1/4}c^3d^2-160\left(-1\right)^{1/4}c^2d^3+80\left(-1\right)^{1/4}cd^4-16\left(-1\right)^{1/4}d^5\right)f\left(a\left(1+\text{Sin}[e+fx]\right)\right)^{5/2}\right)-$$

$$\left(d^{3/2}\left(-3Ad\left(21c^2+30cd+13d^2\right)+B\left(35c^3+70c^2d+67cd^2+20d^3\right)\right)\left(e+fx-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\left(e+fx\right)\right]^2\right]+2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\left(e+fx\right)\right]^2\left(\sqrt{c+d}+\sqrt{d}\ \text{Cos}\left[\frac{1}{2}\left(e+fx\right)\right]-\sqrt{d}\ \text{Sin}\left[\frac{1}{2}\left(e+fx\right)\right]\right)\right]\right)\left(\text{Cos}\left[\frac{1}{2}\left(e+fx\right)\right]+\text{Sin}\left[\frac{1}{2}\left(e+fx\right)\right]\right)^5\right)\Big/\left(16\left(c-d\right)^5\left(c+d\right)^{5/2}f\left(a\left(1+\text{Sin}[e+fx]\right)\right)^{5/2}\right)+$$

$$\left(d^{3/2}\left(-3Ad\left(21c^2+30cd+13d^2\right)+B\left(35c^3+70c^2d+67cd^2+20d^3\right)\right)\left(e+fx-2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\left(e+fx\right)\right]^2\right]+2\,\text{Log}\left[\text{Sec}\left[\frac{1}{4}\left(e+fx\right)\right]^2\left(\sqrt{c+d}-\sqrt{d}\ \text{Cos}\left[\frac{1}{2}\left(e+fx\right)\right]+\sqrt{d}\ \text{Sin}\left[\frac{1}{2}\left(e+fx\right)\right]\right)\right]\right)\left(\text{Cos}\left[\frac{1}{2}\left(e+fx\right)\right]+\text{Sin}\left[\frac{1}{2}\left(e+fx\right)\right]\right)^5\right)\Big/\left(16\left(c-d\right)^5\left(c+d\right)^{5/2}f\left(a\left(1+\text{Sin}[e+fx]\right)\right)^{5/2}\right)+$$

$$\frac{1}{128\,(c-d)^4\,(c+d)^2\,f\,\left(a\,(1+\mathrm{Sin}[e+f\,x])\right)^{5/2}\,(c+d\,\mathrm{Sin}[e+f\,x])^2}$$

$$\left(\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]\right)$$

$$\left(-44\,A\,c^5\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+12\,B\,c^5\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+84\,A\,c^4\,d\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-\right.$$

$$116\,B\,c^4\,d\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+249\,A\,c^3\,d^2\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-433\,B\,c^3\,d^2\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+$$

$$385\,A\,c^2\,d^3\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-277\,B\,c^2\,d^3\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+239\,A\,c\,d^4\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-$$

$$95\,B\,c\,d^4\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]+47\,A\,d^5\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-51\,B\,d^5\,\mathrm{Cos}\left[\frac{1}{2}(e+f\,x)\right]-$$

$$12\,A\,c^5\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]-20\,B\,c^5\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]+40\,A\,c^4\,d\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]-$$

$$104\,B\,c^4\,d\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]+261\,A\,c^3\,d^2\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]-581\,B\,c^3\,d^2\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]+$$

$$781\,A\,c^2\,d^3\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]-665\,B\,c^2\,d^3\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]+579\,A\,c\,d^4\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]-$$

$$299\,B\,c\,d^4\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]+79\,A\,d^5\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]-59\,B\,d^5\,\mathrm{Cos}\left[\frac{3}{2}(e+f\,x)\right]+$$

$$12\,A\,c^4\,d\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]+20\,B\,c^4\,d\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]-73\,A\,c^3\,d^2\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]+$$

$$217\,B\,c^3\,d^2\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]-353\,A\,c^2\,d^3\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]+397\,B\,c^2\,d^3\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]-$$

$$419\,A\,c\,d^4\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]+251\,B\,c\,d^4\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]-127\,A\,d^5\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]+$$

$$75\,B\,d^5\,\mathrm{Cos}\left[\frac{5}{2}(e+f\,x)\right]+3\,A\,c^3\,d^2\,\mathrm{Cos}\left[\frac{7}{2}(e+f\,x)\right]+5\,B\,c^3\,d^2\,\mathrm{Cos}\left[\frac{7}{2}(e+f\,x)\right]-$$

$$21\,A\,c^2\,d^3\,\mathrm{Cos}\left[\frac{7}{2}(e+f\,x)\right]+73\,B\,c^2\,d^3\,\mathrm{Cos}\left[\frac{7}{2}(e+f\,x)\right]-111\,A\,c\,d^4\,\mathrm{Cos}\left[\frac{7}{2}(e+f\,x)\right]+$$

$$79\,B\,c\,d^4\,\mathrm{Cos}\left[\frac{7}{2}(e+f\,x)\right]-63\,A\,d^5\,\mathrm{Cos}\left[\frac{7}{2}(e+f\,x)\right]+35\,B\,d^5\,\mathrm{Cos}\left[\frac{7}{2}(e+f\,x)\right]+$$

$$44\,A\,c^5\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]-12\,B\,c^5\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]-84\,A\,c^4\,d\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]+$$

$$116\,B\,c^4\,d\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]-249\,A\,c^3\,d^2\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]+433\,B\,c^3\,d^2\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]-$$

$$385\,A\,c^2\,d^3\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]+277\,B\,c^2\,d^3\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]-239\,A\,c\,d^4\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]+$$

$$95\,B\,c\,d^4\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]-47\,A\,d^5\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]+51\,B\,d^5\,\mathrm{Sin}\left[\frac{1}{2}(e+f\,x)\right]-$$

$$12\,A\,c^5\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]-20\,B\,c^5\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]+40\,A\,c^4\,d\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]-$$

$$104\,B\,c^4\,d\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]+261\,A\,c^3\,d^2\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]-581\,B\,c^3\,d^2\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]+$$

$$781\,A\,c^2\,d^3\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]-665\,B\,c^2\,d^3\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]+579\,A\,c\,d^4\,\mathrm{Sin}\left[\frac{3}{2}(e+f\,x)\right]-$$

$299\,B\,c\,d^4\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]+79\,A\,d^5\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-59\,B\,d^5\,\text{Sin}\left[\frac{3}{2}\,(e+f\,x)\right]-$
$12\,A\,c^4\,d\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-20\,B\,c^4\,d\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+73\,A\,c^3\,d^2\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-$
$217\,B\,c^3\,d^2\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+353\,A\,c^2\,d^3\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-397\,B\,c^2\,d^3\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+$
$419\,A\,c\,d^4\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-251\,B\,c\,d^4\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+127\,A\,d^5\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]-$
$75\,B\,d^5\,\text{Sin}\left[\frac{5}{2}\,(e+f\,x)\right]+3\,A\,c^3\,d^2\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]+5\,B\,c^3\,d^2\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]-$
$21\,A\,c^2\,d^3\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]+73\,B\,c^2\,d^3\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]-111\,A\,c\,d^4\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]+$
$79\,B\,c\,d^4\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]-63\,A\,d^5\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]+35\,B\,d^5\,\text{Sin}\left[\frac{7}{2}\,(e+f\,x)\right]\Big)$

Problem 328: Unable to integrate problem.

$$\int (a+a\,\text{Sin}[e+f\,x])^2\,(A+B\,\text{Sin}[e+f\,x])\,(c+d\,\text{Sin}[e+f\,x])^n\,dx$$

Optimal (type 6, 221 leaves, 7 steps):

$$-\left(\left(8\,\sqrt{2}\,a^2\,B\,\text{AppellF1}\left[\frac{1}{2},-\frac{5}{2},-n,\frac{3}{2},\frac{1}{2}\,(1-\text{Sin}[e+f\,x]),\frac{d\,(1-\text{Sin}[e+f\,x])}{c+d}\right]\text{Cos}[e+f\,x]\,(c+d\,\text{Sin}[e+f\,x])^n\left(\frac{c+d\,\text{Sin}[e+f\,x]}{c+d}\right)^{-n}\right)\Big/\left(f\,\sqrt{1+\text{Sin}[e+f\,x]}\right)\right)-\left(4\,\sqrt{2}\,a^2\,(A-B)\,\text{AppellF1}\left[\frac{1}{2},-\frac{3}{2},-n,\frac{3}{2},\frac{1}{2}\,(1-\text{Sin}[e+f\,x]),\frac{d\,(1-\text{Sin}[e+f\,x])}{c+d}\right]\text{Cos}[e+f\,x]\,(c+d\,\text{Sin}[e+f\,x])^n\left(\frac{c+d\,\text{Sin}[e+f\,x]}{c+d}\right)^{-n}\right)\Big/\left(f\,\sqrt{1+\text{Sin}[e+f\,x]}\right)$$

Result (type 8, 37 leaves):

$$\int (a+a\,\text{Sin}[e+f\,x])^2\,(A+B\,\text{Sin}[e+f\,x])\,(c+d\,\text{Sin}[e+f\,x])^n\,dx$$

Problem 329: Unable to integrate problem.

$$\int (a+a\,\text{Sin}[e+f\,x])\,(A+B\,\text{Sin}[e+f\,x])\,(c+d\,\text{Sin}[e+f\,x])^n\,dx$$

Optimal (type 6, 217 leaves, 8 steps):

$$-\left(\left(4\sqrt{2}\ a\ B\ \text{AppellF1}\left[\frac{1}{2},-\frac{3}{2},-n,\frac{3}{2},\frac{1}{2}(1-\text{Sin}[e+f x]),\frac{d(1-\text{Sin}[e+f x])}{c+d}\right]\text{Cos}[e+f x](c+d\,\text{Sin}[e+f x])^n\left(\frac{c+d\,\text{Sin}[e+f x]}{c+d}\right)^{-n}\right)\Big/\left(f\sqrt{1+\text{Sin}[e+f x]}\right)\right)-\left(2\sqrt{2}\ a\ (A-B)\ \text{AppellF1}\left[\frac{1}{2},-\frac{1}{2},-n,\frac{3}{2},\frac{1}{2}(1-\text{Sin}[e+f x]),\frac{d(1-\text{Sin}[e+f x])}{c+d}\right]\text{Cos}[e+f x](c+d\,\text{Sin}[e+f x])^n\left(\frac{c+d\,\text{Sin}[e+f x]}{c+d}\right)^{-n}\right)\Big/\left(f\sqrt{1+\text{Sin}[e+f x]}\right)$$

Result (type 8, 35 leaves) :

$$\int(a+a\,\text{Sin}[e+f x])(A+B\,\text{Sin}[e+f x])(c+d\,\text{Sin}[e+f x])^n\,dx$$

Problem 330: Unable to integrate problem.

$$\int\frac{(A+B\,\text{Sin}[e+f x])(c+d\,\text{Sin}[e+f x])^n}{a+a\,\text{Sin}[e+f x]}\,dx$$

Optimal (type 6, 221 leaves, 7 steps) :

$$-\left(\left(\sqrt{2}\ B\ \text{AppellF1}\left[\frac{1}{2},\frac{1}{2},-n,\frac{3}{2},\frac{1}{2}(1-\text{Sin}[e+f x]),\frac{d(1-\text{Sin}[e+f x])}{c+d}\right]\text{Cos}[e+f x](c+d\,\text{Sin}[e+f x])^n\left(\frac{c+d\,\text{Sin}[e+f x]}{c+d}\right)^{-n}\right)\Big/\left(a f\sqrt{1+\text{Sin}[e+f x]}\right)\right)-\left((A-B)\ \text{AppellF1}\left[\frac{1}{2},\frac{3}{2},-n,\frac{3}{2},\frac{1}{2}(1-\text{Sin}[e+f x]),\frac{d(1-\text{Sin}[e+f x])}{c+d}\right]\text{Cos}[e+f x](c+d\,\text{Sin}[e+f x])^n\left(\frac{c+d\,\text{Sin}[e+f x]}{c+d}\right)^{-n}\right)\Big/\left(\sqrt{2}\ a f\sqrt{1+\text{Sin}[e+f x]}\right)$$

Result (type 8, 37 leaves) :

$$\int\frac{(A+B\,\text{Sin}[e+f x])(c+d\,\text{Sin}[e+f x])^n}{a+a\,\text{Sin}[e+f x]}\,dx$$

Problem 331: Unable to integrate problem.

$$\int\frac{(A+B\,\text{Sin}[e+f x])(c+d\,\text{Sin}[e+f x])^n}{(a+a\,\text{Sin}[e+f x])^2}\,dx$$

Optimal (type 6, 223 leaves, 7 steps) :

$$-\left(\left(B\,\text{AppellF1}\left[\frac{1}{2},\frac{3}{2},-n,\frac{3}{2},\frac{1}{2}\left(1-\text{Sin}[e+f x]\right),\frac{d\left(1-\text{Sin}[e+f x]\right)}{c+d}\right]\text{Cos}[e+f x]\right.\right.$$
$$\left.\left.(c+d\,\text{Sin}[e+f x])^n\left(\frac{c+d\,\text{Sin}[e+f x]}{c+d}\right)^{-n}\right)\Big/\left(\sqrt{2}\,a^2 f\sqrt{1+\text{Sin}[e+f x]}\right)\right)-$$
$$\left((A-B)\,\text{AppellF1}\left[\frac{1}{2},\frac{5}{2},-n,\frac{3}{2},\frac{1}{2}\left(1-\text{Sin}[e+f x]\right),\frac{d\left(1-\text{Sin}[e+f x]\right)}{c+d}\right]\text{Cos}[e+f x]\right.$$
$$\left.(c+d\,\text{Sin}[e+f x])^n\left(\frac{c+d\,\text{Sin}[e+f x]}{c+d}\right)^{-n}\right)\Big/\left(2\sqrt{2}\,a^2 f\sqrt{1+\text{Sin}[e+f x]}\right)$$

Result (type 8, 37 leaves):

$$\int\frac{(A+B\,\text{Sin}[e+f x])\,(c+d\,\text{Sin}[e+f x])^n}{(a+a\,\text{Sin}[e+f x])^2}\,dx$$

Problem 333: Unable to integrate problem.

$$\int\sqrt{a+a\,\text{Sin}[e+f x]}\,(A+B\,\text{Sin}[e+f x])\,(c+d\,\text{Sin}[e+f x])^n\,dx$$

Optimal (type 5, 167 leaves, 4 steps):

$$-\frac{2\,a\,B\,\text{Cos}[e+f x]\,(c+d\,\text{Sin}[e+f x])^{1+n}}{d\,f\,(3+2n)\sqrt{a+a\,\text{Sin}[e+f x]}}-\left(2\,a\,\left(A\,d\,(3+2n)-B\,\left(c-2\,d\,(1+n)\right)\right)\right.$$
$$\text{Cos}[e+f x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},-n,\frac{3}{2},\frac{d\left(1-\text{Sin}[e+f x]\right)}{c+d}\right]$$
$$\left.(c+d\,\text{Sin}[e+f x])^n\left(\frac{c+d\,\text{Sin}[e+f x]}{c+d}\right)^{-n}\right)\Big/\left(d\,f\,(3+2n)\sqrt{a+a\,\text{Sin}[e+f x]}\right)$$

Result (type 8, 39 leaves):

$$\int\sqrt{a+a\,\text{Sin}[e+f x]}\,(A+B\,\text{Sin}[e+f x])\,(c+d\,\text{Sin}[e+f x])^n\,dx$$

Problem 334: Result more than twice size of optimal antiderivative.

$$\int\frac{(A+B\,\text{Sin}[e+f x])\,(c+d\,\text{Sin}[e+f x])^n}{\sqrt{a+a\,\text{Sin}[e+f x]}}\,dx$$

Optimal (type 6, 220 leaves, 7 steps):

$$-\left(\left((A-B)\,\text{AppellF1}\left[1+n,\frac{1}{2},1,2+n,\frac{c+d\,\text{Sin}[e+f\,x]}{c+d},\frac{c+d\,\text{Sin}[e+f\,x]}{c-d}\right]\right.\right.$$
$$\left.\text{Cos}[e+f\,x]\sqrt{\frac{d\,(1-\text{Sin}[e+f\,x])}{c+d}}\,(c+d\,\text{Sin}[e+f\,x])^{1+n}\right)\Bigg/$$
$$\left.\left((c-d)\,f\,(1+n)\,(1-\text{Sin}[e+f\,x])\sqrt{a+a\,\text{Sin}[e+f\,x]}\right)\right)-$$
$$\left(2\,B\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},-n,\frac{3}{2},\frac{d\,(1-\text{Sin}[e+f\,x])}{c+d}\right]\right.$$
$$\left.(c+d\,\text{Sin}[e+f\,x])^{n}\left(\frac{c+d\,\text{Sin}[e+f\,x]}{c+d}\right)^{-n}\right)\Bigg/\left(f\sqrt{a+a\,\text{Sin}[e+f\,x]}\right)$$

Result (type 6, 1282 leaves):

$$\frac{1}{a}\left(\left(a^2\,B\,\text{Cos}[e+f\,x]\,\text{Sin}[e+f\,x]\right.\right.$$
$$(1+\text{Sin}[e+f\,x])^2\,(c+d\,\text{Sin}[e+f\,x])^{2\,n}\left(c+\frac{d\,(-a+a\,(1+\text{Sin}[e+f\,x]))}{a}\right)^{-n}$$
$$\left(\left(4\,a\,(c-d)\,\text{AppellF1}\left[1,\frac{1}{2},-n,2,\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{a\,d\,(1+\text{Sin}[e+f\,x])}{a\,c-a\,d}\right]\right)\Bigg/\right.$$
$$\left(8\,a\,(c-d)\,\text{AppellF1}\left[1,\frac{1}{2},-n,2,\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{a\,d\,(1+\text{Sin}[e+f\,x])}{a\,c-a\,d}\right]+\right.$$
$$a\left(4\,d\,n\,\text{AppellF1}\left[2,\frac{1}{2},1-n,3,\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{a\,d\,(1+\text{Sin}[e+f\,x])}{a\,c-a\,d}\right]+\right.$$
$$\left.(c-d)\,\text{AppellF1}\left[2,\frac{3}{2},-n,3,\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{a\,d\,(1+\text{Sin}[e+f\,x])}{a\,c-a\,d}\right]\right)$$
$$\left.(1+\text{Sin}[e+f\,x])\right)+\left(d\,(-1+2\,n)\,\text{AppellF1}\left[-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-n,\right.\right.$$
$$\left.\left.\frac{2}{1+\text{Sin}[e+f\,x]},\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\right]\,(-2\,a+a\,(1+\text{Sin}[e+f\,x]))\right)\Bigg/$$
$$\left((1+2\,n)\left(2\,a\left((-c+d)\,n\,\text{AppellF1}\left[\frac{1}{2}-n,-\frac{1}{2},1-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\right.\right.\right.\right.$$
$$\left.\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\right]+d\,\text{AppellF1}\left[\frac{1}{2}-n,\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\right.$$
$$\left.\left.\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\right]\right)+a\,d\,(-1+2\,n)\,\text{AppellF1}\left[-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-\right.$$
$$\left.\left.\left.\left.\left.n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\right]\,(1+\text{Sin}[e+f\,x])\right)\right)\right)\right)\Bigg/$$

$$\left(f\sqrt{a\,(1+\text{Sin}[e+f x])}\,\left(-a+a\,(1+\text{Sin}[e+f x])\right)\right.$$

$$\sqrt{\frac{2\,a^2\,(1+\text{Sin}[e+f x])-a^2\,(1+\text{Sin}[e+f x])^2}{a^2}}$$

$$\left.\sqrt{1-\frac{\left(-a+a\,(1+\text{Sin}[e+f x])\right)^2}{a^2}}\right)+$$

$$\left(a^2\,A\,\text{Cos}[e+f x]\,(1+\text{Sin}[e+f x])^2\,(c+d\,\text{Sin}[e+f x])^{2\,n}\right.$$

$$\left(c+\frac{d\,\left(-a+a\,(1+\text{Sin}[e+f x])\right)}{a}\right)^{-n}$$

$$\left(\left(\left(4\,(c-d)\,\text{AppellF1}\left[1,\frac{1}{2},-n,2,\frac{1}{2}\,(1+\text{Sin}[e+f x]),-\frac{a\,d\,(1+\text{Sin}[e+f x])}{a\,c-a\,d}\right]\right)\right/\right.$$

$$\left(8\,a\,(c-d)\,\text{AppellF1}\left[1,\frac{1}{2},-n,2,\frac{1}{2}\,(1+\text{Sin}[e+f x]),-\frac{a\,d\,(1+\text{Sin}[e+f x])}{a\,c-a\,d}\right]+\right.$$

$$a\,\left(4\,d\,n\,\text{AppellF1}\left[2,\frac{1}{2},1-n,3,\frac{1}{2}\,(1+\text{Sin}[e+f x]),-\frac{a\,d\,(1+\text{Sin}[e+f x])}{a\,c-a\,d}\right]+\right.$$

$$\left.(c-d)\,\text{AppellF1}\left[2,\frac{3}{2},-n,3,\frac{1}{2}\,(1+\text{Sin}[e+f x]),-\frac{a\,d\,(1+\text{Sin}[e+f x])}{a\,c-a\,d}\right]\right)$$

$$\left.(1+\text{Sin}[e+f x])\right)-\left(d\,(-1+2\,n)\,\text{AppellF1}\left[-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-n,\right.\right.$$

$$\left.\left.\frac{2}{1+\text{Sin}[e+f x]},\frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\right]\,\left(-2\,a+a\,(1+\text{Sin}[e+f x])\right)\right)\Bigg/$$

$$\left(a\,(1+2\,n)\,\left(2\,a\,\left((-c+d)\,n\,\text{AppellF1}\left[\frac{1}{2}-n,-\frac{1}{2},1-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\right.\right.\right.\right.$$

$$\left.\frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\right]+d\,\text{AppellF1}\left[\frac{1}{2}-n,\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f x]},\right.$$

$$\left.\left.\frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\right]\right)+a\,d\,(-1+2\,n)\,\text{AppellF1}\left[-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-\right.$$

$$\left.\left.\left.\left.\left.n,\frac{2}{1+\text{Sin}[e+f x]},\frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\right]\,(1+\text{Sin}[e+f x])\right)\right)\right)\right)\Bigg/$$

$$\left(f\sqrt{a\,(1+\text{Sin}[e+f x])}\,\sqrt{\frac{2\,a^2\,(1+\text{Sin}[e+f x])-a^2\,(1+\text{Sin}[e+f x])^2}{a^2}}\right.$$

$$\left.\left.\sqrt{1-\frac{\left(-a+a\,(1+\text{Sin}[e+f x])\right)^2}{a^2}}\right)\right)$$

Problem 335: Result more than twice size of optimal antiderivative.

$$\int \frac{(A + B \operatorname{Sin}[e + f x]) (c + d \operatorname{Sin}[e + f x])^n}{(a + a \operatorname{Sin}[e + f x])^{3/2}} \, dx$$

Optimal (type 6, 269 leaves, 7 steps):

$$-\left(\left(B \operatorname{AppellF1}\left[1+n, \frac{1}{2}, 1, 2+n, \frac{c+d \operatorname{Sin}[e+f x]}{c+d}, \frac{c+d \operatorname{Sin}[e+f x]}{c-d}\right] \operatorname{Cos}[e+f x] \sqrt{\frac{d (1-\operatorname{Sin}[e+f x])}{c+d}} (c+d \operatorname{Sin}[e+f x])^{1+n}\right) \middle/ \left(a (c-d) f (1+n) (1-\operatorname{Sin}[e+f x]) \sqrt{a+a \operatorname{Sin}[e+f x]}\right)\right) + \left((A-B) d \operatorname{AppellF1}\left[1+n, \frac{1}{2}, 2, 2+n, \frac{c+d \operatorname{Sin}[e+f x]}{c+d}, \frac{c+d \operatorname{Sin}[e+f x]}{c-d}\right] \operatorname{Cos}[e+f x] \sqrt{\frac{d (1-\operatorname{Sin}[e+f x])}{c+d}} (c+d \operatorname{Sin}[e+f x])^{1+n}\right) \middle/ \left((c-d)^2 f (1+n) (a-a \operatorname{Sin}[e+f x]) \sqrt{a+a \operatorname{Sin}[e+f x]}\right)$$

Result (type 6, 1854 leaves):

$$\left(B \operatorname{Cos}[e+f x] \operatorname{Sin}[e+f x] (1+\operatorname{Sin}[e+f x]) (c+d \operatorname{Sin}[e+f x])^{2 n} \left(c+\frac{d (-a+a (1+\operatorname{Sin}[e+f x]))}{a}\right)^{-n} \left(\left(4 a (c-d) \operatorname{AppellF1}\left[1, \frac{1}{2}, -n, 2, \frac{1}{2} (1+\operatorname{Sin}[e+f x]), -\frac{a d (1+\operatorname{Sin}[e+f x])}{a c-a d}\right] (1+\operatorname{Sin}[e+f x])\right) \middle/ \left(8 a (c-d) \operatorname{AppellF1}\left[1, \frac{1}{2}, -n, 2, \frac{1}{2} (1+\operatorname{Sin}[e+f x]), -\frac{a d (1+\operatorname{Sin}[e+f x])}{a c-a d}\right] + a \left(4 d n \operatorname{AppellF1}\left[2, \frac{1}{2}, 1-n, 3, \frac{1}{2} (1+\operatorname{Sin}[e+f x]), -\frac{a d (1+\operatorname{Sin}[e+f x])}{a c-a d}\right] + (c-d) \operatorname{AppellF1}\left[2, \frac{3}{2}, -n, 3, \frac{1}{2} (1+\operatorname{Sin}[e+f x]), -\frac{a d (1+\operatorname{Sin}[e+f x])}{a c-a d}\right]\right) (1+\operatorname{Sin}[e+f x])\right) - \left(d (-1+2 n) \operatorname{AppellF1}\left[-\frac{1}{2}-n, -\frac{1}{2}, -n, \frac{1}{2}-n,\right.\right.\right.$$

$$\frac{2}{1+\text{Sin}[e+f x]},\ \frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\Big]\ (1+\text{Sin}[e+f x])\ (-2 a+a\,(1+\text{Sin}[e+f x]))\Bigg)\Bigg/$$

$$\Bigg(\Big((1+2 n)\ \Big(2 a\,\Big((-c+d)\ n\ \text{AppellF1}\Big[\frac{1}{2}-n,\ -\frac{1}{2},\ 1-n,\ \frac{3}{2}-n,\ \frac{2}{1+\text{Sin}[e+f x]},$$

$$\frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\Big]+d\ \text{AppellF1}\Big[\frac{1}{2}-n,\ \frac{1}{2},\ -n,\ \frac{3}{2}-n,\ \frac{2}{1+\text{Sin}[e+f x]},$$

$$\frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\Big]\Big)+a\,d\,(-1+2 n)\ \text{AppellF1}\Big[-\frac{1}{2}-n,\ -\frac{1}{2},\ -n,$$

$$\frac{1}{2}-n,\ \frac{2}{1+\text{Sin}[e+f x]},\ \frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\Big]\ (1+\text{Sin}[e+f x])\Big)\Big)+$$

$$\Big(2 d\,(-3+2 n)\ \text{AppellF1}\Big[\frac{1}{2}-n,\ -\frac{1}{2},\ -n,\ \frac{3}{2}-n,\ \frac{2}{1+\text{Sin}[e+f x]},\ \frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\Big]$$

$$(-2 a+a\,(1+\text{Sin}[e+f x]))\Big)\Big/$$

$$\Big((-1+2 n)\ \Big(2 a\,\Big((-c+d)\ n\ \text{AppellF1}\Big[\frac{3}{2}-n,\ -\frac{1}{2},\ 1-n,\ \frac{5}{2}-n,\ \frac{2}{1+\text{Sin}[e+f x]},$$

$$\frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\Big]+d\ \text{AppellF1}\Big[\frac{3}{2}-n,\ \frac{1}{2},\ -n,\ \frac{5}{2}-n,\ \frac{2}{1+\text{Sin}[e+f x]},$$

$$\frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\Big]\Big)+a\,d\,(-3+2 n)\ \text{AppellF1}\Big[\frac{1}{2}-n,\ -\frac{1}{2},\ -n,$$

$$\frac{3}{2}-n,\ \frac{2}{1+\text{Sin}[e+f x]},\ \frac{-c+d}{d\,(1+\text{Sin}[e+f x])}\Big]\ (1+\text{Sin}[e+f x])\Big)\Big)\Big)\Bigg)\Bigg/$$

$$\Bigg(2 f\,\sqrt{a\,(1+\text{Sin}[e+f x])}\ (-a+a\,(1+\text{Sin}[e+f x]))$$

$$\sqrt{\frac{2 a^2\,(1+\text{Sin}[e+f x])-a^2\,(1+\text{Sin}[e+f x])^2}{a^2}}$$

$$\sqrt{1-\frac{(-a+a\,(1+\text{Sin}[e+f x]))^2}{a^2}}\Bigg)+$$

$$\Bigg(A\,\text{Cos}[e+f x]\ (1+\text{Sin}[e+f x])\ (c+d\,\text{Sin}[e+f x])^{2 n}$$

$$\Big(c+\frac{d\,(-a+a\,(1+\text{Sin}[e+f x]))}{a}\Big)^{-n}$$

$$\Bigg(\Bigg(4 a^2\,(c-d)\ \text{AppellF1}\Big[1,\ \frac{1}{2},\ -n,\ 2,\ \frac{1}{2}\,(1+\text{Sin}[e+f x]),$$

$$-\frac{a\,d\,(1+\text{Sin}[e+f x])}{a\,c-a\,d}\Big]\ (1+\text{Sin}[e+f x])\Bigg)\Bigg/$$

$$\Big(8\,a\,(c-d)\,\text{AppellF1}\Big[1,\frac{1}{2},-n,2,\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{a\,d\,(1+\text{Sin}[e+f\,x])}{a\,c-a\,d}\Big]+$$

$$a\,\Big(4\,d\,n\,\text{AppellF1}\Big[2,\frac{1}{2},1-n,3,\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{a\,d\,(1+\text{Sin}[e+f\,x])}{a\,c-a\,d}\Big]+$$

$$(c-d)\,\text{AppellF1}\Big[2,\frac{3}{2},-n,3,\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{a\,d\,(1+\text{Sin}[e+f\,x])}{a\,c-a\,d}\Big]\Big)$$

$$(1+\text{Sin}[e+f\,x])\Big)-\Big(a\,d\,(-1+2\,n)\,\text{AppellF1}\Big[-\frac{1}{2}-n,-\frac{1}{2},-n,\frac{1}{2}-n,$$

$$\frac{2}{1+\text{Sin}[e+f\,x]},\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\Big]\,(1+\text{Sin}[e+f\,x])\,(-2\,a+a\,(1+\text{Sin}[e+f\,x]))\Big)\Big/$$

$$\Big((1+2\,n)\,\Big(2\,a\,\Big((-c+d)\,n\,\text{AppellF1}\Big[\frac{1}{2}-n,-\frac{1}{2},1-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},$$

$$\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\Big]+d\,\text{AppellF1}\Big[\frac{1}{2}-n,\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},$$

$$\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\Big]\Big)+a\,d\,(-1+2\,n)\,\text{AppellF1}\Big[-\frac{1}{2}-n,-\frac{1}{2},-n,$$

$$\frac{1}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\Big]\,(1+\text{Sin}[e+f\,x])\Big)\Big)-$$

$$\Big(2\,a\,d\,(-3+2\,n)\,\text{AppellF1}\Big[\frac{1}{2}-n,-\frac{1}{2},-n,\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\Big]$$

$$(-2\,a+a\,(1+\text{Sin}[e+f\,x]))\Big)\Big/$$

$$\Big((-1+2\,n)\,\Big(2\,a\,\Big((-c+d)\,n\,\text{AppellF1}\Big[\frac{3}{2}-n,-\frac{1}{2},1-n,\frac{5}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},$$

$$\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\Big]+d\,\text{AppellF1}\Big[\frac{3}{2}-n,\frac{1}{2},-n,\frac{5}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},$$

$$\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\Big]\Big)+a\,d\,(-3+2\,n)\,\text{AppellF1}\Big[\frac{1}{2}-n,-\frac{1}{2},-n,$$

$$\frac{3}{2}-n,\frac{2}{1+\text{Sin}[e+f\,x]},\frac{-c+d}{d\,(1+\text{Sin}[e+f\,x])}\Big]\,(1+\text{Sin}[e+f\,x])\Big)\Big)\Big)\Big)\Big/$$

$$\Big(2\,a^2\,f\,\sqrt{a\,(1+\text{Sin}[e+f\,x])}\,\sqrt{\frac{2\,a^2\,(1+\text{Sin}[e+f\,x])-a^2\,(1+\text{Sin}[e+f\,x])^2}{a^2}}$$

$$\sqrt{1-\frac{(-a+a\,(1+\text{Sin}[e+f\,x]))^2}{a^2}}\Big)$$

Problem 336: Result more than twice size of optimal antiderivative.

$$\int (a + a \operatorname{Sin}[e + f x])^m (A + B \operatorname{Sin}[e + f x]) (c + d \operatorname{Sin}[e + f x])^2 \, dx$$

Optimal (type 5, 351 leaves, 6 steps):

$$\Big(\big(d \left(A d (3+m) + B (2 c + d m)\right) - 2 (2+m) \left(A c d (3+m) + B \left(c^2 + d^2 + c d m\right)\right)\big) \operatorname{Cos}[e+f x] \left(a + a \operatorname{Sin}[e+f x]\right)^m\Big) \Big/ \left(f (1+m) (2+m) (3+m)\right) - \left(2^{\frac{1}{2}+m} \left(A (3+m) \left(2 c d m (2+m) + d^2 \left(1+m+m^2\right) + c^2 \left(2+3 m+m^2\right)\right) + B \left(d^2 m \left(5+3 m+m^2\right) + c^2 m \left(6+5 m+m^2\right) + 2 c d \left(3+4 m+4 m^2+m^3\right)\right)\right) \operatorname{Cos}[e+f x] \operatorname{Hypergeometric2F1}\left[\frac{1}{2}, \frac{1}{2}-m, \frac{3}{2}, \frac{1}{2} (1-\operatorname{Sin}[e+f x])\right] (1+\operatorname{Sin}[e+f x])^{-\frac{1}{2}-m} (a + a \operatorname{Sin}[e+f x])^m\right) \Big/ \left(f (1+m) (2+m) (3+m)\right) - \frac{d \left(A d (3+m) + B (2 c + d m)\right) \operatorname{Cos}[e+f x] (a + a \operatorname{Sin}[e+f x])^{1+m}}{a f (2+m) (3+m)} - \frac{B \operatorname{Cos}[e+f x] (a + a \operatorname{Sin}[e+f x])^m (c + d \operatorname{Sin}[e+f x])^2}{f (3+m)}$$

Result (type 5, 23 845 leaves): Display of huge result suppressed!

Problem 338: Result unnecessarily involves complex numbers and more than twice size of optimal antiderivative.

$$\int (a + a \operatorname{Sin}[e + f x])^m (A + B \operatorname{Sin}[e + f x]) \, dx$$

Optimal (type 5, 117 leaves, 3 steps):

$$-\frac{B \operatorname{Cos}[e+f x] (a + a \operatorname{Sin}[e+f x])^m}{f (1+m)} - \frac{1}{f (1+m)} 2^{\frac{1}{2}+m} (A + A m + B m) \operatorname{Cos}[e+f x] \operatorname{Hypergeometric2F1}\left[\frac{1}{2}, \frac{1}{2}-m, \frac{3}{2}, \frac{1}{2} (1-\operatorname{Sin}[e+f x])\right] (1+\operatorname{Sin}[e+f x])^{-\frac{1}{2}-m} (a + a \operatorname{Sin}[e+f x])^m$$

Result (type 5, 295 leaves):

$$-\frac{1}{f} \left(a (1+\operatorname{Sin}[e+f x])\right)^m \left(\frac{1}{-1+m^2} 2^{-1-2 m} B e^{-i (e+f x)} \left(1 + i e^{-i (e+f x)}\right)^{-2 m} \left(e^{-\frac{1}{4} i (2 e+\pi+2 f x)} \left(i + e^{i (e+f x)}\right)\right)^{2 m} \left(e^{2 i (e+f x)} (-1+m) \operatorname{Hypergeometric2F1}\left[-1-m, -2 m, -m, -i e^{-i (e+f x)}\right] - (1+m) \operatorname{Hypergeometric2F1}\left[1-m, -2 m, 2-m, -i e^{-i (e+f x)}\right]\right) + \left(2 \sqrt{2} A \operatorname{Cos}\left[\frac{1}{4} (2 e-\pi+2 f x)\right]^{1+2 m} \operatorname{Hypergeometric2F1}\left[\frac{1}{2}, \frac{1}{2}+m, \frac{3}{2}+m, \operatorname{Sin}\left[\frac{1}{4} (2 e+\pi+2 f x)\right]^2\right] \operatorname{Sin}\left[\frac{1}{4} (2 e-\pi+2 f x)\right]\right) \Big/ \left((1+2 m) \sqrt{1-\operatorname{Sin}[e+f x]}\right)\right) \operatorname{Sin}\left[\frac{1}{4} (2 e+\pi+2 f x)\right]^{-2 m}$$

Problem 339: Result more than twice size of optimal antiderivative.

$$\int \frac{(a + a \sin[e + f x])^m (A + B \sin[e + f x])}{c + d \sin[e + f x]} \, dx$$

Optimal (type 6, 191 leaves, 6 steps):

$$-\left(\left(\sqrt{2} (B c - A d) \text{AppellF1}\left[\frac{1}{2} + m, \frac{1}{2}, 1, \frac{3}{2} + m, \frac{1}{2} (1 + \sin[e + f x]), -\frac{d (1 + \sin[e + f x])}{c - d}\right] \cos[e + f x] (a + a \sin[e + f x])^m\right) \Big/ \left((c - d) d f (1 + 2 m) \sqrt{1 - \sin[e + f x]}\right)\right) - \frac{1}{d f} 2^{\frac{1}{2}+m} B \cos[e + f x] \text{Hypergeometric2F1}\left[\frac{1}{2}, \frac{1}{2} - m, \frac{3}{2}, \frac{1}{2} (1 - \sin[e + f x])\right] (1 + \sin[e + f x])^{-\frac{1}{2}-m} (a + a \sin[e + f x])^m$$

Result (type 6, 1022 leaves):

$$-\frac{1}{f} \cos\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^{-2 m} \left(-\left(\left(6 A (c + d) \text{AppellF1}\left[\frac{1}{2}, \frac{1}{2} - m, 1, \frac{3}{2}, \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, \frac{2 d \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2}{c + d}\right] \cos\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^{-1+2 m} \left(\cos\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right)^{\frac{1}{2}-m} \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right] \left(1 - \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right)^{-\frac{1}{2}+m}\right) \Big/ \left(\left(c + d - 2 d \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right) \left(-3 (c + d) \text{AppellF1}\left[\frac{1}{2}, \frac{1}{2} - m, 1, \frac{3}{2}, \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, \frac{2 d \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2}{c + d}\right] + \left(-4 d \text{AppellF1}\left[\frac{3}{2}, \frac{1}{2} - m, 2, \frac{5}{2}, \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, \frac{2 d \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2}{c + d}\right] + (c + d) (-1 + 2 m) \text{AppellF1}\left[\frac{3}{2}, \frac{3}{2} - m, 1, \frac{5}{2}, \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2, \frac{2 d \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2}{c + d}\right]\right) \sin\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^2\right)\right)\right) + B \left(-\left(\left(2 \cos\left[\frac{1}{2}\left(-e + \frac{\pi}{2} - f x\right)\right]^{1+2 m} \text{Hypergeometric2F1}\left[\frac{1}{2}, \frac{1}{2} (1 + 2 m), \frac{1}{2} (3 + 2 m),\right.\right.\right.\right.$$

$$\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right]\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\Bigg)\Bigg/$$

$$\left(d\,(1+2\,m)\,\sqrt{\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Bigg)+\Bigg(6\,c\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,1,\right.$$

$$\left.\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\Bigg)\Bigg/$$

$$\Bigg(d\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\Bigg(-3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,1,\frac{3}{2},\right.$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\Bigg(-4\,d\,\text{AppellF1}\left[\frac{3}{2},\right.$$

$$\left.\frac{1}{2}-m,2,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,1,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\Bigg)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)\Bigg)\Bigg)\Bigg)\,(a+a\,\text{Sin}[e+f\,x])^m$$

Problem 340: Result more than twice size of optimal antiderivative.

$$\int\frac{(a+a\,\text{Sin}[e+f\,x])^m\,(A+B\,\text{Sin}[e+f\,x])}{(c+d\,\text{Sin}[e+f\,x])^2}\,dx$$

Optimal (type 6, 293 leaves, 7 steps):

$$\Bigg(\sqrt{2}\,\left(A\,d\,(c\,(1-m)-d\,m)-B\,(d^2-c^2\,m-c\,d\,m)\right)\text{AppellF1}\left[\frac{1}{2}+m,\frac{1}{2},1,\frac{3}{2}+m,\right.$$

$$\left.\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{d\,(1+\text{Sin}[e+f\,x])}{c-d}\right]\text{Cos}[e+f\,x]\,(a+a\,\text{Sin}[e+f\,x])^m\Bigg)\Bigg/$$

$$\left(\left(c-d\right)^2 d\,(c+d)\,f\,(1+2\,m)\,\sqrt{1-\text{Sin}[e+f\,x]}\right)+\frac{1}{d\,(c^2-d^2)\,f}$$

$$2^{\frac{1}{2}+m}\,(B\,c-A\,d)\,m\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{3}{2},\frac{1}{2}\,(1-\text{Sin}[e+f\,x])\right]$$

$$(1+\text{Sin}[e+f\,x])^{-\frac{1}{2}-m}\,(a+a\,\text{Sin}[e+f\,x])^m-\frac{(B\,c-A\,d)\,\text{Cos}[e+f\,x]\,(a+a\,\text{Sin}[e+f\,x])^m}{(c^2-d^2)\,f\,(c+d\,\text{Sin}[e+f\,x])}$$

Result (type 6, 1332 leaves):

$$-\frac{1}{f}\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2 m}$$

$$\left(-\left(\left(6 A\left(c+d\right) \text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,2,\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\right.\right.\right.$$

$$\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2 m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}-m}$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Big/$$

$$\left(\left(c+d-2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2\left(-3\left(c+d\right)\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,2,\right.\right.\right.$$

$$\left.\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+\left(-8 d\right.$$

$$\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,3,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+$$

$$\left(c+d\right)\left(-1+2 m\right)\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,2,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\left.\left.\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)\right)+$$

$$B\left(-\left(\left(6\left(c+d\right)\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,1,\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.\right.\right.\right.$$

$$\left.\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2 m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}-m}$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Big/$$

$$\left(d\left(c+d-2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\left(-3\left(c+d\right)\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,1,\frac{3}{2},\right.\right.\right.$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+\left(-4 d\,\text{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$\left.\frac{1}{2}-m,2,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+$$

$$\left(c+d\right)\left(-1+2 m\right)\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,1,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)+$$

$$\left(6\,c\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,2,\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Big/$$

$$\left(d\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^2\left(-3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,2,\frac{3}{2},\right.\right.\right.$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\left(-8\,d\,\text{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$\left.\frac{1}{2}-m,3,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,2,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)\right)(a+a\,\text{Sin}[e+f\,x])^m$$

Problem 341: Result more than twice size of optimal antiderivative.

$$\int\frac{(a+a\,\text{Sin}[e+f\,x])^m\,(A+B\,\text{Sin}[e+f\,x])}{(c+d\,\text{Sin}[e+f\,x])^3}\,dx$$

Optimal (type 6, 467 leaves, 8 steps):

$$\left(\left(B\left(2 d^3 m+c^3(1-m) m+2 c^2 d(1-m) m-c d^2\left(3-3 m+m^2\right)\right)-A d\left(2 c d(2-m) m-c^2\left(2-3 m+m^2\right)-d^2\left(1-m+m^2\right)\right)\right)\right.$$
$$\left.\text{AppellF1}\left[\frac{1}{2}+m,\frac{1}{2},1,\frac{3}{2}+m,\frac{1}{2}(1+\text{Sin}[e+f x]),-\frac{d(1+\text{Sin}[e+f x])}{c-d}\right]\text{Cos}[e+f x](a+a\,\text{Sin}[e+f x])^m\right)\Big/$$
$$\left(\sqrt{2}(c-d)^3 d(c+d)^2 f(1+2m)\sqrt{1-\text{Sin}[e+f x]}\right)-\frac{1}{d\left(c^2-d^2\right)^2 f}$$
$$2^{-\frac{1}{2}+m} m\left(A d(c(3-m)-d m)-B\left(2 d^2+c^2(1-m)-c d m\right)\right)\text{Cos}[e+f x]$$
$$\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{3}{2},\frac{1}{2}(1-\text{Sin}[e+f x])\right]$$
$$(1+\text{Sin}[e+f x])^{-\frac{1}{2}-m}(a+a\,\text{Sin}[e+f x])^m-$$
$$\frac{(B c-A d)\text{Cos}[e+f x](a+a\,\text{Sin}[e+f x])^m}{2\left(c^2-d^2\right) f(c+d\,\text{Sin}[e+f x])^2}+$$
$$\left(\left(A d(c(3-m)-d m)-B\left(2 d^2+c^2(1-m)-c d m\right)\right)\text{Cos}[e+f x](a+a\,\text{Sin}[e+f x])^m\right)\Big/$$
$$\left(2\left(c^2-d^2\right)^2 f(c+d\,\text{Sin}[e+f x])\right)$$

Result (type 6, 1332 leaves):

$$-\frac{1}{f}\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2m}$$
$$\left(-\left(\left(6 A(c+d)\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,3,\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\right.\right.\right.$$
$$\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}-m}$$
$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Big/$$
$$\left(\left(c+d-2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^3\left(-3(c+d)\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,3,\right.\right.\right.$$
$$\left.\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+\left(-12 d\right.$$
$$\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,4,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+$$
$$(c+d)(-1+2m)\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,3,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$
$$\left.\left.\left.\left.\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)+$$

$$B \left(- \left(\left(6 \left(c+d\right) \text{AppellF1}\left[\frac{1}{2}, \frac{1}{2}-m, 2, \frac{3}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2 m} \left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}-m} \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right] \left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m} \right) \Big/ \left(d \left(c+d-2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^2 \left(-3 \left(c+d\right) \text{AppellF1}\left[\frac{1}{2}, \frac{1}{2}-m, 2, \frac{3}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] + \left(-8 d \,\text{AppellF1}\left[\frac{3}{2}, \frac{1}{2}-m, 3, \frac{5}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] + \left(c+d\right) \left(-1+2 m\right) \text{AppellF1}\left[\frac{3}{2}, \frac{3}{2}-m, 2, \frac{5}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] \right) \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 \right) \right) \right) + \left(6 c \left(c+d\right) \text{AppellF1}\left[\frac{1}{2}, \frac{1}{2}-m, 3, \frac{3}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2 m} \left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}-m} \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right] \left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m} \right) \Big/ \left(d \left(c+d-2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^3 \left(-3 \left(c+d\right) \text{AppellF1}\left[\frac{1}{2}, \frac{1}{2}-m, 3, \frac{3}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] + \left(-12 d \,\text{AppellF1}\left[\frac{3}{2}, \frac{1}{2}-m, 4, \frac{5}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] + \left(c+d\right) \left(-1+2 m\right) \text{AppellF1}\left[\frac{3}{2}, \frac{3}{2}-m, 3, \frac{5}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \right.\right.\right.$$

$$\left.\left.\left.\left.\left.\frac{2\,d\,\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)\right)\left(a+a\,\mathrm{Sin}[e+f\,x]\right)^m$$

Problem 342: Result more than twice size of optimal antiderivative.

$$\int (a+a\,\mathrm{Sin}[e+f\,x])^m\,(A+B\,\mathrm{Sin}[e+f\,x])\,(c+d\,\mathrm{Sin}[e+f\,x])^{3/2}\,dx$$

Optimal (type 6, 284 leaves, 9 steps):

$$\left(\sqrt{2}\,(A-B)\,(c-d)\,\mathrm{AppellF1}\left[\frac{1}{2}+m,\frac{1}{2},-\frac{3}{2},\frac{3}{2}+m,\frac{1}{2}\left(1+\mathrm{Sin}[e+f\,x]\right),-\frac{d\,(1+\mathrm{Sin}[e+f\,x])}{c-d}\right]\right.$$
$$\left.\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^m\,\sqrt{c+d\,\mathrm{Sin}[e+f\,x]}\right)\Big/$$
$$\left(f\,(1+2\,m)\,\sqrt{1-\mathrm{Sin}[e+f\,x]}\,\sqrt{\frac{c+d\,\mathrm{Sin}[e+f\,x]}{c-d}}\right)+$$
$$\left(\sqrt{2}\,B\,(c-d)\,\mathrm{AppellF1}\left[\frac{3}{2}+m,\frac{1}{2},-\frac{3}{2},\frac{5}{2}+m,\frac{1}{2}\left(1+\mathrm{Sin}[e+f\,x]\right),-\frac{d\,(1+\mathrm{Sin}[e+f\,x])}{c-d}\right]\right.$$
$$\left.\mathrm{Cos}[e+f\,x]\,(a+a\,\mathrm{Sin}[e+f\,x])^{1+m}\,\sqrt{c+d\,\mathrm{Sin}[e+f\,x]}\right)\Big/$$
$$\left(a\,f\,(3+2\,m)\,\sqrt{1-\mathrm{Sin}[e+f\,x]}\,\sqrt{\frac{c+d\,\mathrm{Sin}[e+f\,x]}{c-d}}\right)$$

Result (type 6, 4033 leaves):

$$-\frac{1}{f}\mathrm{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-2\,m}\left(-\left(\left(3\,B\,d\,(c+d)\right.\right.\right.$$
$$\mathrm{AppellF1}\left[\frac{1}{2},-\frac{3}{2}-m,-\frac{1}{2},\frac{3}{2},\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]$$
$$\mathrm{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{3+2\,m}\left(\mathrm{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}+\frac{1}{2}(-4-2\,m)}\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$
$$\left.\left(1-\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{3}{2}+m}\sqrt{c+d-2\,d\,\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Big/\left(-3\,(c+d)\right.$$
$$\mathrm{AppellF1}\left[\frac{1}{2},-\frac{3}{2}-m,-\frac{1}{2},\frac{3}{2},\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$
$$\left(2\,d\,\mathrm{AppellF1}\left[\frac{3}{2},-\frac{3}{2}-m,\frac{1}{2},\frac{5}{2},\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\mathrm{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\right.$$

$$\left(c+d\right)\ \left(3+2\,m\right)\ \text{AppellF1}\left[\frac{3}{2},\,-\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)-$$

$$\left(6\,B\,c\,\left(c+d\right)\ \text{AppellF1}\left[\frac{1}{2},\,-\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\ \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}+\frac{1}{2}\,(-2-2\,m)}\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}+m}\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Bigg/$$

$$\left(-3\,\left(c+d\right)\ \text{AppellF1}\left[\frac{1}{2},\,-\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$\left(2\,d\,\text{AppellF1}\left[\frac{3}{2},\,-\frac{1}{2}-m,\,\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\right.$$

$$\left(c+d\right)\ \left(1+2\,m\right)\ \text{AppellF1}\left[\frac{3}{2},\,\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)-$$

$$\left(6\,A\,d\,\left(c+d\right)\ \text{AppellF1}\left[\frac{1}{2},\,-\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\ \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}+\frac{1}{2}\,(-2-2\,m)}\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}+m}\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Bigg/$$

$$\left(-3\,\left(c+d\right)\ \text{AppellF1}\left[\frac{1}{2},\,-\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\Big]+$$

$$\left(2\,d\,\text{AppellF1}\left[\frac{3}{2},\,-\frac{1}{2}-m,\,\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\right.$$

$$(c+d)\,(1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\,\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)+$$

$$\left(6\,A\,c\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Bigg/$$

$$\left(3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]-\right.$$

$$\left(2\,d\,\text{AppellF1}\left[\frac{3}{2},\,\frac{1}{2}-m,\,\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\right.$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\,\frac{3}{2}-m,\,-\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)+$$

$$\left(3\,B\,d\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Bigg/$$

$$\left(3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]-\right.$$

$$\left(2\,d\,\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\right.$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)+$$

$$\left(10\,B\,d\,(c+d)\,\text{AppellF1}\left[\frac{3}{2},-\frac{1}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}\,(-1-2\,m)}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^3$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}+m}\,\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Big/$$

$$\left(-5\,(c+d)\,\text{AppellF1}\left[\frac{3}{2},-\frac{1}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$\left(2\,d\,\text{AppellF1}\left[\frac{5}{2},-\frac{1}{2}-m,\frac{1}{2},\frac{7}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\right.$$

$$(c+d)\,(1+2\,m)\,\text{AppellF1}\left[\frac{5}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{7}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$

$$\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)+$$

$$\left(10\,B\,c\,(c+d)\,\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}\,(1-2\,m)}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^3$$

$$\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m}\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\Bigg)\Big/$$

$$\Bigg(3\Bigg(-5\,(c+d)\,\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+\Bigg(2\,d\,\text{AppellF1}\left[\frac{5}{2},\frac{1}{2}-m,\frac{1}{2},\frac{7}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{5}{2},\frac{3}{2}-m,-\frac{1}{2},\frac{7}{2},\right.$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\Bigg)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)+$$

$$\Bigg(10\,A\,d\,(c+d)\,\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}(1-2\,m)}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^3$$

$$\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m}\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\Bigg)\Big/$$

$$\Bigg(3\Bigg(-5\,(c+d)\,\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+\Bigg(2\,d\,\text{AppellF1}\left[\frac{5}{2},\frac{1}{2}-m,\frac{1}{2},\frac{7}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{5}{2},\frac{3}{2}-m,-\frac{1}{2},\frac{7}{2},\right.$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\Bigg)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)-$$

$$\Bigg(7\,B\,d\,(c+d)\,\text{AppellF1}\left[\frac{5}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{7}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}(1-2m)} \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^5$$

$$\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m} \sqrt{c+d-2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\Bigg)\Bigg/$$

$$\Bigg(5\Bigg(-7(c+d)\,\text{AppellF1}\left[\frac{5}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{7}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+$$

$$\left(2 d\,\text{AppellF1}\left[\frac{7}{2},\frac{1}{2}-m,\frac{1}{2},\frac{9}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+\right.$$

$$(c+d)(-1+2m)\,\text{AppellF1}\left[\frac{7}{2},\frac{3}{2}-m,-\frac{1}{2},\frac{9}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\frac{2 d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)\ (a+a\,\text{Sin}[e+f x])^m$$

Problem 343: Result more than twice size of optimal antiderivative.

$$\int (a+a\,\text{Sin}[e+f x])^m\,(A+B\,\text{Sin}[e+f x])\,\sqrt{c+d\,\text{Sin}[e+f x]}\,dx$$

Optimal (type 6, 274 leaves, 9 steps):

$$\left(\sqrt{2}\,(A-B)\,\text{AppellF1}\left[\frac{1}{2}+m,\frac{1}{2},-\frac{1}{2},\frac{3}{2}+m,\frac{1}{2}(1+\text{Sin}[e+f x]),-\frac{d(1+\text{Sin}[e+f x])}{c-d}\right]\right.$$

$$\left.\text{Cos}[e+f x]\,(a+a\,\text{Sin}[e+f x])^m\sqrt{c+d\,\text{Sin}[e+f x]}\right)\Bigg/$$

$$\left(f(1+2m)\sqrt{1-\text{Sin}[e+f x]}\sqrt{\frac{c+d\,\text{Sin}[e+f x]}{c-d}}\right)+$$

$$\left(\sqrt{2}\,B\,\text{AppellF1}\left[\frac{3}{2}+m,\frac{1}{2},-\frac{1}{2},\frac{5}{2}+m,\frac{1}{2}(1+\text{Sin}[e+f x]),-\frac{d(1+\text{Sin}[e+f x])}{c-d}\right]\right.$$

$$\left.\text{Cos}[e+f x]\,(a+a\,\text{Sin}[e+f x])^{1+m}\sqrt{c+d\,\text{Sin}[e+f x]}\right)\Bigg/$$

$$\left(a f(3+2m)\sqrt{1-\text{Sin}[e+f x]}\sqrt{\frac{c+d\,\text{Sin}[e+f x]}{c-d}}\right)$$

Result (type 6, 1364 leaves):

$$-\frac{1}{f}\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2m}$$

$$\left(\left(6\,A\,\left(c+d\right)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right.\right.$$

$$\text{Cos}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\,\left(\text{Cos}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\,\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Big/$$

$$\left(3\,\left(c+d\right)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]-\right.$$

$$\left(2\,d\,\text{AppellF1}\left[\frac{3}{2},\,\frac{1}{2}-m,\,\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\right.$$

$$\left(c+d\right)\,\left(-1+2\,m\right)\,\text{AppellF1}\left[\frac{3}{2},\,\frac{3}{2}-m,\,-\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)+$$

$$B\,\left(-\left(\left(6\,\left(c+d\right)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-\frac{3}{2},\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\,\text{Cos}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]\,\left(1-\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}$$

$$\left.\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{3/2}\right)\Big/\left(d\,\left(-3\,\left(c+d\right)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-\frac{3}{2},\right.\right.\right.$$

$$\left.\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\left(6\,d\,\text{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$\left.\frac{1}{2}-m,\,-\frac{1}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$\left(c+d\right)\,\left(-1+2\,m\right)\,\text{AppellF1}\left[\frac{3}{2},\,\frac{3}{2}-m,\,-\frac{3}{2},\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\,\text{Sin}\left[\frac{1}{2}\,\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)-$$

$$\left(6\,c\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Bigg/$$

$$\left(d\left(3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]-\left(2\,d\,\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,\frac{1}{2},\right.\right.$$

$$\left.\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)\,(a+a\,\text{Sin}[e+f\,x])^m$$

Problem 344: Result more than twice size of optimal antiderivative.

$$\int\frac{(a+a\,\text{Sin}[e+f\,x])^m\,(A+B\,\text{Sin}[e+f\,x])}{\sqrt{c+d\,\text{Sin}[e+f\,x]}}\,dx$$

Optimal (type 6, 274 leaves, 9 steps):

$$\left(\sqrt{2}\ (A-B)\ \text{AppellF1}\left[\frac{1}{2}+m,\frac{1}{2},\frac{1}{2},\frac{3}{2}+m,\frac{1}{2}\ (1+\text{Sin}[e+f x]),-\frac{d\ (1+\text{Sin}[e+f x])}{c-d}\right]\right.$$

$$\left.\text{Cos}[e+f x]\ (a+a\ \text{Sin}[e+f x])^m\sqrt{\frac{c+d\ \text{Sin}[e+f x]}{c-d}}\right)\Bigg/$$

$$\left(f\ (1+2\ m)\ \sqrt{1-\text{Sin}[e+f x]}\ \sqrt{c+d\ \text{Sin}[e+f x]}\right)+$$

$$\left(\sqrt{2}\ B\ \text{AppellF1}\left[\frac{3}{2}+m,\frac{1}{2},\frac{1}{2},\frac{5}{2}+m,\frac{1}{2}\ (1+\text{Sin}[e+f x]),-\frac{d\ (1+\text{Sin}[e+f x])}{c-d}\right]\right.$$

$$\left.\text{Cos}[e+f x]\ (a+a\ \text{Sin}[e+f x])^{1+m}\sqrt{\frac{c+d\ \text{Sin}[e+f x]}{c-d}}\right)\Bigg/$$

$$\left(a\ f\ (3+2\ m)\ \sqrt{1-\text{Sin}[e+f x]}\ \sqrt{c+d\ \text{Sin}[e+f x]}\right)$$

Result (type 6, 1363 leaves):

$$-\frac{1}{f}\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2 m}$$

$$\left(-\left(\left(6\ A\ (c+d)\ \text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{1}{2},\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2\ d\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\right.\right.\right.$$

$$\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2 m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}-m}$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Bigg/$$

$$\left(\sqrt{c+d-2\ d\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}\ \left(-3\ (c+d)\ \text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{1}{2},\frac{3}{2},\right.\right.\right.$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2\ d\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+\left(-2\ d\ \text{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$\left.\frac{1}{2}-m,\frac{3}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\frac{2\ d\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\ (-1+2\ m)\ \text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\left.\frac{2\ d\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)\right)\right)+$$

$$B\left(\left(6\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right.\right.$$

$$\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)\Bigg/$$

$$\left(d\left(3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,-\frac{1}{2},\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]-\left(2\,d\,\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,\frac{1}{2},\right.\right.$$

$$\left.\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,-\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)+$$

$$\left(6\,c\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{1}{2},\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Bigg/$$

$$\left(d\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\left(-3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{1}{2},\frac{3}{2},\right.\right.\right.$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\left(-2\,d\,\text{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$\left.\frac{1}{2}-m,\frac{3}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,\frac{1}{2},\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)\right)\left(a+a\,\text{Sin}[e+f\,x]\right)^m$$

Problem 345: Result more than twice size of optimal antiderivative.

$$\int\frac{\left(a+a\,\text{Sin}[e+f\,x]\right)^m\left(A+B\,\text{Sin}[e+f\,x]\right)}{\left(c+d\,\text{Sin}[e+f\,x]\right)^{3/2}}\,dx$$

Optimal (type 6, 288 leaves, 9 steps):

$$\left(\sqrt{2}\,(A-B)\,\text{AppellF1}\left[\frac{1}{2}+m,\frac{1}{2},\frac{3}{2},\frac{3}{2}+m,\frac{1}{2}\left(1+\text{Sin}[e+f\,x]\right),-\frac{d\left(1+\text{Sin}[e+f\,x]\right)}{c-d}\right]\right.$$
$$\left.\text{Cos}[e+f\,x]\left(a+a\,\text{Sin}[e+f\,x]\right)^m\sqrt{\frac{c+d\,\text{Sin}[e+f\,x]}{c-d}}\right)\Big/$$
$$\left(\left(c-d\right)f\left(1+2\,m\right)\sqrt{1-\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)+$$
$$\left(\sqrt{2}\,B\,\text{AppellF1}\left[\frac{3}{2}+m,\frac{1}{2},\frac{3}{2},\frac{5}{2}+m,\frac{1}{2}\left(1+\text{Sin}[e+f\,x]\right),-\frac{d\left(1+\text{Sin}[e+f\,x]\right)}{c-d}\right]\right.$$
$$\left.\text{Cos}[e+f\,x]\left(a+a\,\text{Sin}[e+f\,x]\right)^{1+m}\sqrt{\frac{c+d\,\text{Sin}[e+f\,x]}{c-d}}\right)\Big/$$
$$\left(a\left(c-d\right)f\left(3+2\,m\right)\sqrt{1-\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)$$

Result (type 6, 1362 leaves):

$$-\frac{1}{f}\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-2\,m}$$
$$\left(-\left(\left(6\,A\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{3}{2},\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right.\right.\right.$$
$$\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}$$
$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Big/$$
$$\left(\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{3/2}\left(-3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{3}{2},\frac{3}{2},\right.\right.\right.$$
$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\left(-6\,d\,\text{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$\frac{1}{2}-m,\ \frac{5}{2},\ \frac{5}{2},\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ \frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\ (-1+2\,m)\ \text{AppellF1}\left[\frac{3}{2},\ \frac{3}{2}-m,\ \frac{3}{2},\ \frac{5}{2},\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)+$$

$$B\left(-\left(\left(6\ (c+d)\ \text{AppellF1}\left[\frac{1}{2},\ \frac{1}{2}-m,\ \frac{1}{2},\ \frac{3}{2},\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\ \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\ \left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\ \left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Big/$$

$$\left(d\,\sqrt{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\ \left(-3\ (c+d)\ \text{AppellF1}\left[\frac{1}{2},\ \frac{1}{2}-m,\ \frac{1}{2},\ \frac{3}{2},\right.\right.\right.$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ \frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\left(-2\,d\,\text{AppellF1}\left[\frac{3}{2},\right.\right.$$

$$\left.\frac{1}{2}-m,\ \frac{3}{2},\ \frac{5}{2},\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ \frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\ (-1+2\,m)\ \text{AppellF1}\left[\frac{3}{2},\ \frac{3}{2}-m,\ \frac{1}{2},\ \frac{5}{2},\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)+$$

$$\left(6\,c\ (c+d)\ \text{AppellF1}\left[\frac{1}{2},\ \frac{1}{2}-m,\ \frac{3}{2},\ \frac{3}{2},\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\ \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\ \left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}$$

$$\left.\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\ \left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\right)\Big/$$

$$\left(d\,\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{3/2}\ \left(-3\ (c+d)\ \text{AppellF1}\left[\frac{1}{2},\ \frac{1}{2}-m,\ \frac{3}{2},\right.\right.\right.$$

$$\frac{3}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] + \left(-6 d \text{AppellF1}\left[\frac{3}{2}, \frac{1}{2}-m, \frac{5}{2}, \frac{5}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] + (c+d)(-1+2m) \text{AppellF1}\left[\frac{3}{2}, \frac{3}{2}-m, \frac{3}{2}, \frac{5}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right]\right) \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\Bigg)\Bigg)\Bigg)\Bigg) (a+a \text{Sin}[e+f x])^m$$

Problem 346: Result more than twice size of optimal antiderivative.

$$\int (a+a \text{Sin}[e+f x])^m (A+B \text{Sin}[e+f x]) (c+d \text{Sin}[e+f x])^n \, dx$$

Optimal (type 6, 270 leaves, 9 steps):

$$\left(\sqrt{2} (A-B) \text{AppellF1}\left[\frac{1}{2}+m, \frac{1}{2}, -n, \frac{3}{2}+m, \frac{1}{2}(1+\text{Sin}[e+f x]), -\frac{d (1+\text{Sin}[e+f x])}{c-d}\right] \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^m (c+d \text{Sin}[e+f x])^n \left(\frac{c+d \text{Sin}[e+f x]}{c-d}\right)^{-n}\right) \Big/ \left(f (1+2m) \sqrt{1-\text{Sin}[e+f x]}\right) + \left(\sqrt{2} B \text{AppellF1}\left[\frac{3}{2}+m, \frac{1}{2}, -n, \frac{5}{2}+m, \frac{1}{2}(1+\text{Sin}[e+f x]), -\frac{d (1+\text{Sin}[e+f x])}{c-d}\right] \text{Cos}[e+f x] (a+a \text{Sin}[e+f x])^{1+m} (c+d \text{Sin}[e+f x])^n \left(\frac{c+d \text{Sin}[e+f x]}{c-d}\right)^{-n}\right) \Big/ \left(a f (3+2m) \sqrt{1-\text{Sin}[e+f x]}\right)$$

Result (type 6, 1375 leaves):

$$-\frac{1}{f} \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-2m} \Bigg(\Bigg(6 A (c+d) \text{AppellF1}\left[\frac{1}{2}, \frac{1}{2}-m, -n, \frac{3}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^{-1+2m} \left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{\frac{1}{2}-m} \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right] \left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^{-\frac{1}{2}+m} \left(c+d-2 d \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\right)^n\Bigg) \Big/ \left(3 (c+d) \text{AppellF1}\left[\frac{1}{2}, \frac{1}{2}-m, -n, \frac{3}{2}, \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2, \frac{2 d \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{c+d}\right] - \right.$$

$$\left(4\,d\,n\,\text{AppellF1}\left[\frac{3}{2},\,\frac{1}{2}-m,\,1-n,\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\right.$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\,\frac{3}{2}-m,\,-n,\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)+$$

$$B\left(-\left(\left(\left(6\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-1-n,\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}$$

$$\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\,\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}$$

$$\left.\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{1+n}\right)\Big/\left(d\left(-3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-1-n,\right.\right.\right.$$

$$\left.\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+\left(4\,d\,(1+n)\,\text{AppellF1}\right[$$

$$\frac{3}{2},\,\frac{1}{2}-m,\,-n,\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\Bigg]+$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\,\frac{3}{2}-m,\,-1-n,\,\frac{5}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)-\left(6\,c\,(c+d)\right.$$

$$\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-n,\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]$$

$$\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\,\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\,\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^n\right)\Big/$$

$$\left(d\left(3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\,\frac{1}{2}-m,\,-n,\,\frac{3}{2},\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]-\left(4\,d\,n\,\text{AppellF1}\left[\frac{3}{2},\,\frac{1}{2}-m,\,1-n,\right.\right.$$

$$\frac{5}{2},\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\ \frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\Big]+$$
$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\Big[\frac{3}{2},\ \frac{3}{2}-m,\ -n,\ \frac{5}{2},\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,$$
$$\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\Big]\Bigg)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\Bigg)\Bigg)\Bigg)\Bigg)\,(a+a\,\text{Sin}[e+f\,x])^m$$

Problem 347: Result more than twice size of optimal antiderivative.

$$\int (a+a\,\text{Sin}[e+f\,x])^m\,(A+B\,\text{Sin}[e+f\,x])\,(c+d\,\text{Sin}[e+f\,x])^{-1-m}\,dx$$

Optimal (type 6, 277 leaves, 7 steps):

$$-\frac{1}{(c+d)\,f}2^{\frac{1}{2}+m}\,a\,(A-B)\,\text{Cos}[e+f\,x]\,\text{Hypergeometric2F1}\Big[\frac{1}{2},\ \frac{1}{2}-m,\ \frac{3}{2},\ \frac{(c-d)\,(1-\text{Sin}[e+f\,x])}{2\,(c+d\,\text{Sin}[e+f\,x])}\Big]$$
$$(a+a\,\text{Sin}[e+f\,x])^{-1+m}\left(\frac{(c+d)\,(1+\text{Sin}[e+f\,x])}{c+d\,\text{Sin}[e+f\,x]}\right)^{\frac{1}{2}-m}(c+d\,\text{Sin}[e+f\,x])^{-m}+$$
$$\Bigg(\sqrt{2}\,B\,\text{AppellF1}\Big[\frac{3}{2}+m,\ \frac{1}{2},\ 1+m,\ \frac{5}{2}+m,\ \frac{1}{2}\,(1+\text{Sin}[e+f\,x]),\ -\frac{d\,(1+\text{Sin}[e+f\,x])}{c-d}\Big]$$
$$\text{Cos}[e+f\,x]\,(a+a\,\text{Sin}[e+f\,x])^{1+m}\,(c+d\,\text{Sin}[e+f\,x])^{-m}\left(\frac{c+d\,\text{Sin}[e+f\,x]}{c-d}\right)^m\Bigg)\Big/$$
$$\left(a\,(c-d)\,f\,(3+2\,m)\,\sqrt{1-\text{Sin}[e+f\,x]}\right)$$

Result (type 6, 1020 leaves):

$$-\frac{1}{f}\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-2\,m}\Bigg(\frac{1}{c+d}2\,A\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}$$
$$\text{Hypergeometric2F1}\Big[\frac{1}{2},\ \frac{1}{2}-m,\ \frac{3}{2},\ \frac{(c-d)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\Big]$$
$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}$$
$$\left(-\frac{(c+d)\left(-1+\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)}{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{\frac{1}{2}-m}\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-m}+$$
$$B\,\Bigg(-\frac{1}{d\,(c+d)}2\,c\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}$$

$$\text{Hypergeometric2F1}\left[\frac{1}{2},\frac{1}{2}-m,\frac{3}{2},\frac{(c-d)\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}$$

$$\left(-\frac{(c+d)\left(-1+\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)}{c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}\right)^{\frac{1}{2}-m}\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-m}+$$

$$\left(6\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,m,\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right.$$

$$\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^{-1+2\,m}\left(\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{\frac{1}{2}-m}\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]$$

$$\left.\left(1-\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-\frac{1}{2}+m}\left(c+d-2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)^{-m}\right)\Bigg/$$

$$\left(d\left(3\,(c+d)\,\text{AppellF1}\left[\frac{1}{2},\frac{1}{2}-m,m,\frac{3}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.\right.\right.$$

$$\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]-\left(-4\,d\,m\,\text{AppellF1}\left[\frac{3}{2},\frac{1}{2}-m,1+m,\right.\right.$$

$$\left.\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]+$$

$$(c+d)\,(-1+2\,m)\,\text{AppellF1}\left[\frac{3}{2},\frac{3}{2}-m,m,\frac{5}{2},\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2,\right.$$

$$\left.\left.\left.\left.\frac{2\,d\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{c+d}\right]\right)\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right)\right)\right)(a+a\,\text{Sin}[e+f\,x])^m$$

Problem 348: Unable to integrate problem.

$$\int (a-a\,\text{Sin}[e+f\,x])\,(a+a\,\text{Sin}[e+f\,x])^m\,(c+d\,\text{Sin}[e+f\,x])^n\,dx$$

Optimal (type 6, 132 leaves, 4 steps):

$$\frac{1}{f\,(1+2\,m)}2\,\sqrt{2}\,\text{AppellF1}\left[\frac{1}{2}+m,-\frac{1}{2},-n,\frac{3}{2}+m,\frac{1}{2}\,(1+\text{Sin}[e+f\,x]),-\frac{d\,(1+\text{Sin}[e+f\,x])}{c-d}\right]$$

$$\text{Sec}[e+f\,x]\,\sqrt{1-\text{Sin}[e+f\,x]}\,(a+a\,\text{Sin}[e+f\,x])^{1+m}\,(c+d\,\text{Sin}[e+f\,x])^n\left(\frac{c+d\,\text{Sin}[e+f\,x]}{c-d}\right)^{-n}$$

Result (type 8, 38 leaves):

$$\int (a - a\,\text{Sin}[e + f\,x])\,(a + a\,\text{Sin}[e + f\,x])^m\,(c + d\,\text{Sin}[e + f\,x])^n\,dx$$

Problem 349: Unable to integrate problem.

$$\int (a - a\,\text{Sin}[e + f\,x])\,(a + a\,\text{Sin}[e + f\,x])^m\,(c + d\,\text{Sin}[e + f\,x])^{-1-m}\,dx$$

Optimal (type 6, 139 leaves, 4 steps):

$$\left(2\sqrt{2}\,\text{AppellF1}\left[\frac{1}{2} + m, -\frac{1}{2}, 1 + m, \frac{3}{2} + m, \frac{1}{2}\,(1 + \text{Sin}[e + f\,x]), -\frac{d\,(1 + \text{Sin}[e + f\,x])}{c - d}\right]\right.$$
$$\text{Sec}[e + f\,x]\,\sqrt{1 - \text{Sin}[e + f\,x]}\,(a + a\,\text{Sin}[e + f\,x])^{1+m}$$
$$\left.(c + d\,\text{Sin}[e + f\,x])^{-m}\left(\frac{c + d\,\text{Sin}[e + f\,x]}{c - d}\right)^m\right) \Big/ \left((c - d)\,f\,(1 + 2\,m)\right)$$

Result (type 8, 42 leaves):

$$\int (a - a\,\text{Sin}[e + f\,x])\,(a + a\,\text{Sin}[e + f\,x])^m\,(c + d\,\text{Sin}[e + f\,x])^{-1-m}\,dx$$

Problem 353: Result more than twice size of optimal antiderivative.

$$\int \frac{(A + B\,\text{Sin}[e + f\,x])\,(c + d\,\text{Sin}[e + f\,x])^{3/2}}{(a + b\,\text{Sin}[e + f\,x])^{3/2}}\,dx$$

Optimal (type 4, 840 leaves, 7 steps):

$$\left((c-d)\sqrt{c+d}\,\left(2 A b^2 c-2 a b B c-2 a A b d+3 a^2 B d-b^2 B d\right)\right.$$

$$\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{a+b}\,\sqrt{c+d\,\text{Sin}[e+f x]}}{\sqrt{c+d}\,\sqrt{a+b\,\text{Sin}[e+f x]}}\right],\frac{(a-b)\,(c+d)}{(a+b)\,(c-d)}\right]\text{Sec}[e+f x]$$

$$\left.\sqrt{-\frac{(b c-a d)\,(1-\text{Sin}[e+f x])}{(c+d)\,(a+b\,\text{Sin}[e+f x])}}\,\sqrt{\frac{(b c-a d)\,(1+\text{Sin}[e+f x])}{(c-d)\,(a+b\,\text{Sin}[e+f x])}}\,(a+b\,\text{Sin}[e+f x])\right)\Big/$$

$$\left((a-b)\,b^2\sqrt{a+b}\,(b c-a d)\,f\right)+\frac{1}{b^3\sqrt{a+b}\,f}\sqrt{c+d}\,(3 b B c+2 A b d-3 a B d)$$

$$\text{EllipticPi}\left[\frac{b\,(c+d)}{(a+b)\,d},\text{ArcSin}\left[\frac{\sqrt{a+b}\,\sqrt{c+d\,\text{Sin}[e+f x]}}{\sqrt{c+d}\,\sqrt{a+b\,\text{Sin}[e+f x]}}\right],\frac{(a-b)\,(c+d)}{(a+b)\,(c-d)}\right]\text{Sec}[e+f x]$$

$$\sqrt{-\frac{(b c-a d)\,(1-\text{Sin}[e+f x])}{(c+d)\,(a+b\,\text{Sin}[e+f x])}}\,\sqrt{\frac{(b c-a d)\,(1+\text{Sin}[e+f x])}{(c-d)\,(a+b\,\text{Sin}[e+f x])}}\,(a+b\,\text{Sin}[e+f x])+$$

$$\frac{2\,(A b-a B)\,(b c-a d)\,\text{Cos}[e+f x]\,\sqrt{c+d\,\text{Sin}[e+f x]}}{b\,(a^2-b^2)\,f\,\sqrt{a+b\,\text{Sin}[e+f x]}}-$$

$$\left(\left(2 A b\,(b c-a d)-B\,(2 a b c-3 a^2 d+b^2 d)\right)\text{Cos}[e+f x]\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\Big/$$

$$\left(b\,(a^2-b^2)\,f\,\sqrt{a+b\,\text{Sin}[e+f x]}\right)+$$

$$\left(\sqrt{a+b}\,\left(2 A b\,(b\,(c-2 d)+a d)-B\,(3 a^2 d-6 a b d+b^2\,(2 c+d))\right)\right.$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{c+d}\,\sqrt{a+b\,\text{Sin}[e+f x]}}{\sqrt{a+b}\,\sqrt{c+d\,\text{Sin}[e+f x]}}\right],\frac{(a+b)\,(c-d)}{(a-b)\,(c+d)}\right]$$

$$\text{Sec}[e+f x]\,\sqrt{\frac{(b c-a d)\,(1-\text{Sin}[e+f x])}{(a+b)\,(c+d\,\text{Sin}[e+f x])}}$$

$$\left.\sqrt{-\frac{(b c-a d)\,(1+\text{Sin}[e+f x])}{(a-b)\,(c+d\,\text{Sin}[e+f x])}}\,(c+d\,\text{Sin}[e+f x])\right)\Big/\left((a-b)\,b^3\sqrt{c+d}\,f\right)$$

Result (type 4, 2012 leaves) :

$$-\left(\left(2\left(A b^2 c\,\text{Cos}[e+f x]-a b B c\,\text{Cos}[e+f x]-a A b d\,\text{Cos}[e+f x]+a^2 B d\,\text{Cos}[e+f x]\right)\right.\right.$$

$$\left.\left.\sqrt{c+d\,\text{Sin}[e+f x]}\right)\Big/\left(b\,(-a^2+b^2)\,f\,\sqrt{a+b\,\text{Sin}[e+f x]}\right)\right)+$$

$$\frac{1}{2\,(a-b)\,b\,(a+b)\,f}\left(-\left(\left(\left(4\,(-b c+a d)\,\left(2 a A b c^2-2 b^2 B c^2-2 A b^2 c d+2 a b B c d+a^2 B d^2-b^2 B d^2\right)\right.\right.\right.\right.$$

$$\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right],\ \frac{2\,(-b c+a d)}{(a+b)\,(-c+d)}\right]$$

$$\text{Sec}[e+f x]\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4 \sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right)\Big/$$

$$\left.\left((a+b)\,(c+d)\,\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\right) -$$

$$4\,(-b c+a d)\,\left(2 A b^2 c^2-2 a b B c^2+4 a^2 B c d-4 b^2 B c d-2 A b^2 d^2+2 a b B d^2\right)$$

$$\left(\left(\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\ \text{EllipticF}\right[\right.\right.$$

$$\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right],\ \frac{2\,(-b c+a d)}{(a+b)\,(-c+d)}\right]\ \text{Sec}[e+f x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4 \sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right)\Big/$$

$$\left((a+b)\,(c+d)\,\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{c+d\,\text{Sin}[e+f x]}\right) -$$

$$\left(\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\ \text{EllipticPi}\left[\frac{-b c+a d}{(a+b)\,d},\right.\right.$$

$$\text{ArcSin}\Big[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\Big],\ \frac{2\,(-b c+a d)}{(a+b)\,(-c+d)}\Big]\,\text{Sec}[e+f x]$$

$$\text{Sin}\Big[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\Big]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right)\Big/$$

$$\left.\left((a+b)\,d\,\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\right)+$$

$$2\left(-2 A b^2 c d+2 a b B c d+2 a A b d^2-3 a^2 B d^2+b^2 B d^2\right)$$

$$\left(\frac{\text{Cos}[e+f x]\,\sqrt{c+d\,\text{Sin}[e+f x]}}{d\,\sqrt{a+b\,\text{Sin}[e+f x]}}+\right.$$

$$\left(\sqrt{\frac{a-b}{a+b}}\,(a+b)\,\text{Cos}\Big[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\Big]\,\text{EllipticE}\Big[\text{ArcSin}\Big[\frac{\sqrt{\frac{a-b}{a+b}}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]}{\sqrt{\frac{a+b\,\text{Sin}[e+f x]}{a+b}}}\Big],\right.$$

$$\left.\frac{2\,(-b c+a d)}{(a-b)\,(c+d)}\Big]\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\Big/\left(b\,d\,\sqrt{\frac{(a+b)\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{a+b\,\text{Sin}[e+f x]}}\right.$$

$$\left.\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{\frac{a+b\,\text{Sin}[e+f x]}{a+b}}\,\sqrt{\frac{(a+b)\,(c+d\,\text{Sin}[e+f x])}{(c+d)\,(a+b\,\text{Sin}[e+f x])}}\right)-$$

$$\frac{1}{b d}\,2\,(-b c+a d)\left(\left(\left((a+b)\,c+a d\right)\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\,\text{EllipticF}\Big[\right.\right.$$

$$\text{ArcSin}\Big[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\Big],\ \frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\Big]\ \text{Sec}[e+f\,x]$$

$$\text{Sin}\Big[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\left.\sqrt{\left(-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}\right)}\right)\Big/$$

$$\left((a+b)\,(c+d)\,\sqrt{a+b\,\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)-$$

$$\Bigg((b\,c+a\,d)\,\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\ \text{EllipticPi}\Big[\frac{-b\,c+a\,d}{(a+b)\,d},\ \text{ArcSin}\Big[$$

$$\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\Big],\ \frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\Big]\ \text{Sec}[e+f\,x]$$

$$\text{Sin}\Big[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\Big]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\left.\sqrt{\left(-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}\right)}\right)\Big/$$

$$\left.\left.\left.\left((a+b)\,d\,\sqrt{a+b\,\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)\right)\right)\right)$$

Problem 354: Result more than twice size of optimal antiderivative.

$$\int \frac{(A+B\,\text{Sin}[e+f\,x])\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}{(a+b\,\text{Sin}[e+f\,x])^{3/2}}\,dx$$

Optimal (type 4, 630 leaves, 5 steps):

$$\left(2\,(A\,b-a\,B)\,(c-d)\,\sqrt{c+d}\;\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{a+b}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}{\sqrt{c+d}\,\sqrt{a+b\,\text{Sin}[e+f\,x]}}\right],\frac{(a-b)\,(c+d)}{(a+b)\,(c-d)}\right]\right.$$
$$\text{Sec}[e+f\,x]\,\sqrt{-\frac{(b\,c-a\,d)\,(1-\text{Sin}[e+f\,x])}{(c+d)\,(a+b\,\text{Sin}[e+f\,x])}}\,\sqrt{\frac{(b\,c-a\,d)\,(1+\text{Sin}[e+f\,x])}{(c-d)\,(a+b\,\text{Sin}[e+f\,x])}}$$
$$\left.(a+b\,\text{Sin}[e+f\,x])\right)\Big/\left((a-b)\,b\,\sqrt{a+b}\,(b\,c-a\,d)\,f\right)+$$
$$\left(2\,\sqrt{a+b}\,(A\,b-a\,B)\,(c-d)\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{c+d}\,\sqrt{a+b\,\text{Sin}[e+f\,x]}}{\sqrt{a+b}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}\right],\frac{(a+b)\,(c-d)}{(a-b)\,(c+d)}\right]\right.$$
$$\text{Sec}[e+f\,x]\,\sqrt{\frac{(b\,c-a\,d)\,(1-\text{Sin}[e+f\,x])}{(a+b)\,(c+d\,\text{Sin}[e+f\,x])}}\,\sqrt{-\frac{(b\,c-a\,d)\,(1+\text{Sin}[e+f\,x])}{(a-b)\,(c+d\,\text{Sin}[e+f\,x])}}$$
$$\left.(c+d\,\text{Sin}[e+f\,x])\right)\Big/\left((a-b)\,b\,\sqrt{c+d}\,(b\,c-a\,d)\,f\right)+\frac{1}{b^2\,\sqrt{c+d}\,f}$$
$$2\,\sqrt{a+b}\;B\,\text{EllipticPi}\left[\frac{(a+b)\,d}{b\,(c+d)},\,\text{ArcSin}\left[\frac{\sqrt{c+d}\,\sqrt{a+b\,\text{Sin}[e+f\,x]}}{\sqrt{a+b}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}\right],\frac{(a+b)\,(c-d)}{(a-b)\,(c+d)}\right]$$
$$\text{Sec}[e+f\,x]\,\sqrt{\frac{(b\,c-a\,d)\,(1-\text{Sin}[e+f\,x])}{(a+b)\,(c+d\,\text{Sin}[e+f\,x])}}$$
$$\sqrt{-\frac{(b\,c-a\,d)\,(1+\text{Sin}[e+f\,x])}{(a-b)\,(c+d\,\text{Sin}[e+f\,x])}}\,(c+d\,\text{Sin}[e+f\,x])$$

Result (type 4, 1871 leaves):

$$-\frac{2\,(-A\,b\,\text{Cos}[e+f\,x]+a\,B\,\text{Cos}[e+f\,x])\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}{(a^2-b^2)\,f\,\sqrt{a+b\,\text{Sin}[e+f\,x]}}+$$
$$\frac{1}{(a-b)\,(a+b)\,f}\left(-\left(\left(4\,(a\,A\,c-b\,B\,c)\,(-b\,c+a\,d)\,\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\right.\right.\right.$$
$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\right]$$
$$\text{Sec}[e+f\,x]\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right) \Bigg/$$

$$\left.\left((a+b)\,(c+d)\,\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\right) -$$

$$4\,(-b c+a d)\,(A b c-a B c+a A d-b B d)\left(\left(\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\;\text{EllipticF}\Big[\right.\right.$$

$$\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right],\ \frac{2\,(-b c+a d)}{(a+b)\,(-c+d)}\Big]\,\text{Sec}[e+f x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right) \Bigg/$$

$$\left((a+b)\,(c+d)\,\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{c+d\,\text{Sin}[e+f x]}\right) -$$

$$\left(\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\;\text{EllipticPi}\Big[\frac{-b c+a d}{(a+b)\,d},\right.$$

$$\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right],\ \frac{2\,(-b c+a d)}{(a+b)\,(-c+d)}\Big]\,\text{Sec}[e+f x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right)\Big/$$

$$\left.\left((a+b)\,d\,\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\right)+$$

$$2\,(-A b d+a B d)\left(\frac{\text{Cos}[e+f x]\,\sqrt{c+d\,\text{Sin}[e+f x]}}{d\,\sqrt{a+b\,\text{Sin}[e+f x]}}+\right.$$

$$\left(\sqrt{\frac{a-b}{a+b}}\,(a+b)\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{a-b}{a+b}}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]}{\sqrt{\frac{a+b\,\text{Sin}[e+f x]}{a+b}}}\right],\right.\right.$$

$$\left.\left.\frac{2\,(-b c+a d)}{(a-b)\,(c+d)}\right]\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\Big/\left(b\,d\,\sqrt{\frac{(a+b)\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{a+b\,\text{Sin}[e+f x]}}\right.$$

$$\left.\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{\frac{a+b\,\text{Sin}[e+f x]}{a+b}}\,\sqrt{\frac{(a+b)\,(c+d\,\text{Sin}[e+f x])}{(c+d)\,(a+b\,\text{Sin}[e+f x])}}\right)-$$

$$\frac{1}{b d}\,2\,(-b c+a d)\left(\left(\left((a+b)\,c+a d\right)\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\,\text{EllipticF}\left[\right.\right.\right.$$

$$\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right],\,\frac{2\,(-b c+a d)}{(a+b)\,(-c+d)}\right]\,\text{Sec}[e+f x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4\,\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\sqrt{\left(-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}\right)}\Bigg/$$

$$\left((a+b)\,(c+d)\,\sqrt{a+b\,\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)-$$

$$\Bigg((b\,c+a\,d)\,\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\;\text{EllipticPi}\Big[\frac{-b\,c+a\,d}{(a+b)\,d},\,\text{ArcSin}\Big[$$

$$\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\Big],\,\frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\Big]\,\text{Sec}[e+f\,x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\sqrt{\left(-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}\right)}\Bigg/$$

$$\left((a+b)\,d\,\sqrt{a+b\,\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)\Bigg)\Bigg)\Bigg)$$

Problem 355: Result more than twice size of optimal antiderivative.

$$\int \frac{A+B\,\text{Sin}[e+f\,x]}{(a+b\,\text{Sin}[e+f\,x])^{3/2}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}\,dx$$

Optimal (type 4, 417 leaves, 3 steps):

$$\left(2\,(A\,b-a\,B)\,(c-d)\,\sqrt{c+d}\;\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{a+b}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}{\sqrt{c+d}\,\sqrt{a+b\,\text{Sin}[e+f\,x]}}\right],\frac{(a-b)\,(c+d)}{(a+b)\,(c-d)}\right]\right.$$

$$\text{Sec}[e+f\,x]\,\sqrt{-\frac{(b\,c-a\,d)\,(1-\text{Sin}[e+f\,x])}{(c+d)\,(a+b\,\text{Sin}[e+f\,x])}}\,\sqrt{\frac{(b\,c-a\,d)\,(1+\text{Sin}[e+f\,x])}{(c-d)\,(a+b\,\text{Sin}[e+f\,x])}}$$

$$\left.(a+b\,\text{Sin}[e+f\,x])\right)\Big/\left((a-b)\,\sqrt{a+b}\,(b\,c-a\,d)^2\,f\right)+$$

$$\left(2\,\sqrt{a+b}\,(A-B)\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{c+d}\,\sqrt{a+b\,\text{Sin}[e+f\,x]}}{\sqrt{a+b}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}\right],\frac{(a+b)\,(c-d)}{(a-b)\,(c+d)}\right]\right.$$

$$\text{Sec}[e+f\,x]\,\sqrt{\frac{(b\,c-a\,d)\,(1-\text{Sin}[e+f\,x])}{(a+b)\,(c+d\,\text{Sin}[e+f\,x])}}\,\sqrt{-\frac{(b\,c-a\,d)\,(1+\text{Sin}[e+f\,x])}{(a-b)\,(c+d\,\text{Sin}[e+f\,x])}}$$

$$\left.(c+d\,\text{Sin}[e+f\,x])\right)\Big/\left((a-b)\,\sqrt{c+d}\,(b\,c-a\,d)\,f\right)$$

Result (type 4, 1919 leaves):

$$-\frac{2\,\left(A\,b^2\,\text{Cos}[e+f\,x]-a\,b\,B\,\text{Cos}[e+f\,x]\right)\,\sqrt{c+d\,\text{Sin}[e+f\,x]}}{(a^2-b^2)\,(-b\,c+a\,d)\,f\,\sqrt{a+b\,\text{Sin}[e+f\,x]}}+\frac{1}{(a-b)\,(a+b)\,(-b\,c+a\,d)\,f}$$

$$\left(-\left(\left(4\,(-b\,c+a\,d)\,\left(-a\,A\,b\,c+b^2\,B\,c+a^2\,A\,d-A\,b^2\,d\right)\,\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\right.\right.\right.$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\right]$$

$$\text{Sec}[e+f\,x]\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\,\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}\right)\Big/$$

$$\left.\left((a+b)\ (c+d)\ \sqrt{a+b\,\text{Sin}[e+f\,x]}\ \sqrt{c+d\,\text{Sin}[e+f\,x]}\right)\right) -$$

$$4\ (-b\,c+a\,d)\ \left(-A\,b^2\,c+a\,b\,B\,c-a\,A\,b\,d+a^2\,B\,d\right)\ \left(\left(\sqrt{\frac{(c+d)\ \text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\right.\right.$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\ \frac{2\ (-b\,c+a\,d)}{(a+b)\ (-c+d)}\right]\ \text{Sec}[$$

$$e+f\,x]\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\ \sqrt{\frac{(c+d)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\left.\sqrt{-\frac{(a+b)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}\right)\Big/$$

$$\left((a+b)\ (c+d)\ \sqrt{a+b\,\text{Sin}[e+f\,x]}\ \sqrt{c+d\,\text{Sin}[e+f\,x]}\right) -$$

$$\left(\sqrt{\frac{(c+d)\ \text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\ \text{EllipticPi}\left[\frac{-b\,c+a\,d}{(a+b)\ d},\right.\right.$$

$$\left.\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\ \frac{2\ (-b\,c+a\,d)}{(a+b)\ (-c+d)}\right]\ \text{Sec}[e+f\,x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\ \sqrt{\frac{(c+d)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\left.\sqrt{-\frac{(a+b)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}\right)\Big/$$

$$\left.\left((a+b)\ d\ \sqrt{a+b\,\text{Sin}[e+f\,x]}\ \sqrt{c+d\,\text{Sin}[e+f\,x]}\right)\right)+$$

$$2\left(A\,b^2\,d-a\,b\,B\,d\right)\left(\frac{\text{Cos}[e+f\,x]\ \sqrt{c+d\,\text{Sin}[e+f\,x]}}{d\ \sqrt{a+b\,\text{Sin}[e+f\,x]}}+\right.$$

$$\left(\sqrt{\frac{a-b}{a+b}}\ (a+b)\ \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]\ \text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{a-b}{a+b}}\ \text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]}{\sqrt{\frac{a+b\,\text{Sin}[e+f\,x]}{a+b}}}\right],\right.\right.$$

$$\left.\left.\frac{2\,(-b\,c+a\,d)}{(a-b)\ (c+d)}\right]\ \sqrt{c+d\,\text{Sin}[e+f\,x]}\right)\Big/\left(b\,d\ \sqrt{\frac{(a+b)\ \text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{a+b\,\text{Sin}[e+f\,x]}}\right.$$

$$\left.\sqrt{a+b\,\text{Sin}[e+f\,x]}\ \sqrt{\frac{a+b\,\text{Sin}[e+f\,x]}{a+b}}\ \sqrt{\frac{(a+b)\ (c+d\,\text{Sin}[e+f\,x])}{(c+d)\ (a+b\,\text{Sin}[e+f\,x])}}\right)-$$

$$\frac{1}{b\,d}\,2\,(-b\,c+a\,d)\left(\left(\left((a+b)\ c+a\,d\right)\sqrt{\frac{(c+d)\ \text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\ \text{EllipticF}\left[\right.\right.\right.$$

$$\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\ \frac{2\,(-b\,c+a\,d)}{(a+b)\ (-c+d)}\right]\ \text{Sec}[e+f\,x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\ \sqrt{\frac{(c+d)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\left.\sqrt{\left(-\frac{(a+b)\ \text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\ (c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}\right)}\right)\Big/$$

$$\left((a+b)\ (c+d)\ \sqrt{a+b\,\text{Sin}[e+f\,x]}\ \sqrt{c+d\,\text{Sin}[e+f\,x]}\right)-$$

$$\left((b c + a d) \sqrt{\frac{(c+d) \operatorname{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}} \operatorname{EllipticPi}\left[\frac{-b c+a d}{(a+b) d}, \operatorname{ArcSin}\left[\frac{\sqrt{-\frac{(a+b) \operatorname{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d \operatorname{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right], \frac{2(-b c+a d)}{(a+b)(-c+d)}\right] \operatorname{Sec}[e+f x] \operatorname{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4 \sqrt{\frac{(c+d) \operatorname{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (a+b \operatorname{Sin}[e+f x])}{-b c+a d}} \sqrt{\left(-\frac{(a+b) \operatorname{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2 (c+d \operatorname{Sin}[e+f x])}{-b c+a d}\right)}\right) \Big/ \left((a+b) d \sqrt{a+b \operatorname{Sin}[e+f x]} \sqrt{c+d \operatorname{Sin}[e+f x]}\right)\Bigg)\Bigg)\Bigg)$$

Problem 356: Result more than twice size of optimal antiderivative.

$$\int \frac{A + B \operatorname{Sin}[e+f x]}{(a+b \operatorname{Sin}[e+f x])^{3/2} (c+d \operatorname{Sin}[e+f x])^{3/2}} \, dx$$

Optimal (type 4, 544 leaves, 4 steps):

$$\frac{2\,b\,(A\,b-a\,B)\,\mathrm{Cos}[e+f\,x]}{(a^2-b^2)\,(b\,c-a\,d)\,f\,\sqrt{a+b\,\mathrm{Sin}[e+f\,x]}\,\sqrt{c+d\,\mathrm{Sin}[e+f\,x]}}-$$

$$\Big(2\,\big(A\,(a^2\,d^2+b^2\,(c^2-2\,d^2))-B\,(a^2\,c\,d-b^2\,c\,d+a\,b\,(c^2-d^2))\big)$$

$$\mathrm{EllipticE}\Big[\mathrm{ArcSin}\Big[\frac{\sqrt{c+d}\,\sqrt{a+b\,\mathrm{Sin}[e+f\,x]}}{\sqrt{a+b}\,\sqrt{c+d\,\mathrm{Sin}[e+f\,x]}}\Big],\frac{(a+b)\,(c-d)}{(a-b)\,(c+d)}\Big]\,\mathrm{Sec}[e+f\,x]$$

$$\sqrt{\frac{(b\,c-a\,d)\,(1-\mathrm{Sin}[e+f\,x])}{(a+b)\,(c+d\,\mathrm{Sin}[e+f\,x])}}\,\sqrt{-\frac{(b\,c-a\,d)\,(1+\mathrm{Sin}[e+f\,x])}{(a-b)\,(c+d\,\mathrm{Sin}[e+f\,x])}}\,(c+d\,\mathrm{Sin}[e+f\,x])\Big)\Big/$$

$$\Big(\sqrt{a+b}\,(c-d)\,\sqrt{c+d}\,(b\,c-a\,d)^3\,f\Big)+\Big(2\,(A\,b\,c+b\,B\,c-a\,A\,d-2\,A\,b\,d+a\,B\,d)$$

$$\mathrm{EllipticF}\Big[\mathrm{ArcSin}\Big[\frac{\sqrt{c+d}\,\sqrt{a+b\,\mathrm{Sin}[e+f\,x]}}{\sqrt{a+b}\,\sqrt{c+d\,\mathrm{Sin}[e+f\,x]}}\Big],\frac{(a+b)\,(c-d)}{(a-b)\,(c+d)}\Big]\,\mathrm{Sec}[e+f\,x]$$

$$\sqrt{\frac{(b\,c-a\,d)\,(1-\mathrm{Sin}[e+f\,x])}{(a+b)\,(c+d\,\mathrm{Sin}[e+f\,x])}}\,\sqrt{-\frac{(b\,c-a\,d)\,(1+\mathrm{Sin}[e+f\,x])}{(a-b)\,(c+d\,\mathrm{Sin}[e+f\,x])}}\,(c+d\,\mathrm{Sin}[e+f\,x])\Big)\Big/$$

$$\Big(\sqrt{a+b}\,(c-d)\,\sqrt{c+d}\,(b\,c-a\,d)^2\,f\Big)$$

Result (type 4, 2236 leaves):

$$\frac{1}{f}\sqrt{a+b\,\mathrm{Sin}[e+f\,x]}\,\sqrt{c+d\,\mathrm{Sin}[e+f\,x]}$$

$$\left(\frac{2\,(A\,b^3\,\mathrm{Cos}[e+f\,x]-a\,b^2\,B\,\mathrm{Cos}[e+f\,x])}{(a^2-b^2)\,(-b\,c+a\,d)^2\,(a+b\,\mathrm{Sin}[e+f\,x])}-\frac{2\,(B\,c\,d^2\,\mathrm{Cos}[e+f\,x]-A\,d^3\,\mathrm{Cos}[e+f\,x])}{(b\,c-a\,d)^2\,(c^2-d^2)\,(c+d\,\mathrm{Sin}[e+f\,x])}\right)+$$

$$\frac{1}{(a-b)\,(a+b)\,(c-d)\,(c+d)\,(-b\,c+a\,d)^2\,f}$$

$$\Bigg(-\frac{1}{(a+b)\,(c+d)\,\sqrt{a+b\,\mathrm{Sin}[e+f\,x]}\,\sqrt{c+d\,\mathrm{Sin}[e+f\,x]}}$$

$$4\,(-b\,c+a\,d)\,\big(a\,A\,b^2\,c^3-b^3\,B\,c^3-2\,a^2\,A\,b\,c^2\,d+2\,A\,b^3\,c^2\,d+a^3\,A\,c\,d^2-2\,a\,A\,b^2\,c\,d^2+$$

$$b^3\,B\,c\,d^2+2\,a^2\,A\,b\,d^3-2\,A\,b^3\,d^3-a^3\,B\,d^3+a\,b^2\,B\,d^3\big)\,\sqrt{\frac{(c+d)\,\mathrm{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}$$

$$\mathrm{EllipticF}\Bigg[\mathrm{ArcSin}\Bigg[\frac{\sqrt{-\frac{(a+b)\,\mathrm{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\mathrm{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\Bigg],\frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\Bigg]$$

$$\text{Sec}[e+f x]\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2(a+b\,\text{Sin}[e+f x])}{-b c+a d}}\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2(c+d\,\text{Sin}[e+f x])}{-b c+a d}}-$$

$$4(-b c+a d)\left(A b^3 c^3-a b^2 B c^3+a A b^2 c^2 d-2 a^2 b B c^2 d+b^3 B c^2 d+a^2 A b c d^2-2 A b^3 c d^2-a^3 B c d^2+2 a b^2 B c d^2+a^3 A d^3-2 a A b^2 d^3+a^2 b B d^3\right)\left(\left(\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\right.\right.$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2(c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right],\frac{2(-b c+a d)}{(a+b)(-c+d)}\right]\text{Sec}[e+f x]\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2(a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2(c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right)\Big/\left((a+b)(c+d)\sqrt{a+b\,\text{Sin}[e+f x]}\sqrt{c+d\,\text{Sin}[e+f x]}\right)-$$

$$\left(\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\,\text{EllipticPi}\left[\frac{-b c+a d}{(a+b)d},\right.\right.$$

$$\left.\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2(c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right],\frac{2(-b c+a d)}{(a+b)(-c+d)}\right]\text{Sec}[e+f x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2(a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2(c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right)\Big/$$

$$\left.\left(\left(a+b\right) d \sqrt{a+b \operatorname{Sin}[e+f x]} \sqrt{c+d \operatorname{Sin}[e+f x]}\right)\right)+$$

$$2 \left(-A b^3 c^2 d+a b^2 B c^2 d+a^2 b B c d^2-b^3 B c d^2-a^2 A b d^3+2 A b^3 d^3-a b^2 B d^3\right)$$

$$\left(\frac{\operatorname{Cos}[e+f x] \sqrt{c+d \operatorname{Sin}[e+f x]}}{d \sqrt{a+b \operatorname{Sin}[e+f x]}}+\right.$$

$$\left(\sqrt{\frac{a-b}{a+b}} \left(a+b\right) \operatorname{Cos}\left[\frac{1}{2} \left(-e+\frac{\pi}{2}-f x\right)\right] \operatorname{EllipticE}\left[\operatorname{ArcSin}\left[\frac{\sqrt{\frac{a-b}{a+b}} \operatorname{Sin}\left[\frac{1}{2} \left(-e+\frac{\pi}{2}-f x\right)\right]}{\sqrt{\frac{a+b \operatorname{Sin}[e+f x]}{a+b}}}\right],\right.\right.$$

$$\left.\left.\frac{2 \left(-b c+a d\right)}{\left(a-b\right) \left(c+d\right)}\right] \sqrt{c+d \operatorname{Sin}[e+f x]}\right) \Big/ \left(b d \sqrt{\frac{\left(a+b\right) \operatorname{Cos}\left[\frac{1}{2} \left(-e+\frac{\pi}{2}-f x\right)\right]^2}{a+b \operatorname{Sin}[e+f x]}}\right.$$

$$\left.\sqrt{a+b \operatorname{Sin}[e+f x]} \sqrt{\frac{a+b \operatorname{Sin}[e+f x]}{a+b}} \sqrt{\frac{\left(a+b\right) \left(c+d \operatorname{Sin}[e+f x]\right)}{\left(c+d\right) \left(a+b \operatorname{Sin}[e+f x]\right)}}\right)-$$

$$\frac{1}{b d} 2 \left(-b c+a d\right) \left(\left(\left(\left(a+b\right) c+a d\right) \sqrt{\frac{\left(c+d\right) \operatorname{Cot}\left[\frac{1}{2} \left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}} \operatorname{EllipticF}\left[\right.\right.\right.$$

$$\left.\operatorname{ArcSin}\left[\frac{\sqrt{-\frac{\left(a+b\right) \operatorname{Csc}\left[\frac{1}{2} \left(-e+\frac{\pi}{2}-f x\right)\right]^2 \left(c+d \operatorname{Sin}[e+f x]\right)}{-b c+a d}}}{\sqrt{2}}\right], \frac{2 \left(-b c+a d\right)}{\left(a+b\right) \left(-c+d\right)}\right] \operatorname{Sec}[e+f x]$$

$$\operatorname{Sin}\left[\frac{1}{2} \left(-e+\frac{\pi}{2}-f x\right)\right]^4 \sqrt{\frac{\left(c+d\right) \operatorname{Csc}\left[\frac{1}{2} \left(-e+\frac{\pi}{2}-f x\right)\right]^2 \left(a+b \operatorname{Sin}[e+f x]\right)}{-b c+a d}}$$

$$\left.\sqrt{\left(-\frac{\left(a+b\right) \operatorname{Csc}\left[\frac{1}{2} \left(-e+\frac{\pi}{2}-f x\right)\right]^2 \left(c+d \operatorname{Sin}[e+f x]\right)}{-b c+a d}\right)}\right) \Big/$$

$$\left(\left(a+b\right) \left(c+d\right) \sqrt{a+b \operatorname{Sin}[e+f x]} \sqrt{c+d \operatorname{Sin}[e+f x]}\right)-$$

$$\Bigg((b\,c+a\,d)\,\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\;\text{EllipticPi}\Big[\frac{-b\,c+a\,d}{(a+b)\,d},\,\text{ArcSin}\Big[$$

$$\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\Big],\,\frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\Big]\,\text{Sec}[e+f\,x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\,\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\sqrt{\left(-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}\right)}\Bigg)\Big/$$

$$\Big((a+b)\,d\,\sqrt{a+b\,\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\Big)\Big)\Big)\Big)$$

Problem 357: Result more than twice size of optimal antiderivative.

$$\int\frac{A+B\,\text{Sin}[e+f\,x]}{(a+b\,\text{Sin}[e+f\,x])^{3/2}\,(c+d\,\text{Sin}[e+f\,x])^{5/2}}\,dx$$

Optimal (type 4, 858 leaves, 5 steps):

$$\frac{2 b (A b - a B) \text{Cos}[e + f x]}{(a^2 - b^2) (b c - a d) f \sqrt{a + b \text{Sin}[e + f x]} (c + d \text{Sin}[e + f x])^{3/2}} +$$

$$\left(2 d \left(A \left(a^2 d^2 + b^2 (3 c^2 - 4 d^2)\right) - B \left(a^2 c d - b^2 c d + 3 a b (c^2 - d^2)\right)\right) \text{Cos}[e + f x] \sqrt{a + b \text{Sin}[e + f x]}\right) \Big/ \left(3 (a^2 - b^2) (b c - a d)^2 (c^2 - d^2) f (c + d \text{Sin}[e + f x])^{3/2}\right) +$$

$$\frac{1}{3 \sqrt{a + b} (c - d)^2 (c + d)^{3/2} (b c - a d)^4 f} 2 \left(B \left(2 a^2 b c d (3 c^2 - d^2) - 2 b^3 c d (3 c^2 - d^2) - a^3 d^2 (c^2 + 3 d^2) + a b^2 (3 c^4 - 5 c^2 d^2 + 6 d^4)\right) + A \left(4 a^3 c d^3 - 4 a b^2 c d^3 - a^2 b d^2 (9 c^2 - 5 d^2) - b^3 (3 c^4 - 15 c^2 d^2 + 8 d^4)\right)\right)$$

$$\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{c + d} \sqrt{a + b \text{Sin}[e + f x]}}{\sqrt{a + b} \sqrt{c + d \text{Sin}[e + f x]}}\right], \frac{(a + b) (c - d)}{(a - b) (c + d)}\right] \text{Sec}[e + f x]$$

$$\sqrt{\frac{(b c - a d) (1 - \text{Sin}[e + f x])}{(a + b) (c + d \text{Sin}[e + f x])}} \sqrt{-\frac{(b c - a d) (1 + \text{Sin}[e + f x])}{(a - b) (c + d \text{Sin}[e + f x])}} (c + d \text{Sin}[e + f x]) -$$

$$\left(2 \left(B \left(a^2 d^2 (c + 3 d) - b^2 c (3 c^2 + 3 c d - 2 d^2) - 6 a b d (c^2 - d^2)\right) - A \left(a^2 d^2 (3 c + d) - 6 a b d (c^2 - d^2) + b^2 (3 c^3 - 9 c^2 d - 6 c d^2 + 8 d^3)\right)\right)\right.$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{c + d} \sqrt{a + b \text{Sin}[e + f x]}}{\sqrt{a + b} \sqrt{c + d \text{Sin}[e + f x]}}\right], \frac{(a + b) (c - d)}{(a - b) (c + d)}\right] \text{Sec}[e + f x]$$

$$\left.\sqrt{\frac{(b c - a d) (1 - \text{Sin}[e + f x])}{(a + b) (c + d \text{Sin}[e + f x])}} \sqrt{-\frac{(b c - a d) (1 + \text{Sin}[e + f x])}{(a - b) (c + d \text{Sin}[e + f x])}} (c + d \text{Sin}[e + f x])\right) \Big/$$

$$\left(3 \sqrt{a + b} (c - d)^2 (c + d)^{3/2} (b c - a d)^3 f\right)$$

Result (type 4, 2807 leaves):

$$\frac{1}{f} \sqrt{a + b \text{Sin}[e + f x]} \sqrt{c + d \text{Sin}[e + f x]}$$

$$\left(-\frac{2 (A b^4 \text{Cos}[e + f x] - a b^3 B \text{Cos}[e + f x])}{(a^2 - b^2) (-b c + a d)^3 (a + b \text{Sin}[e + f x])} + \frac{2 (-B c d^2 \text{Cos}[e + f x] + A d^3 \text{Cos}[e + f x])}{3 (b c - a d)^2 (c^2 - d^2) (c + d \text{Sin}[e + f x])^2} -\right.$$

$$\left(2 \left(6 b B c^3 d^2 \text{Cos}[e + f x] - 9 A b c^2 d^3 \text{Cos}[e + f x] - a B c^2 d^3 \text{Cos}[e + f x] + 4 a A c d^4 \text{Cos}[e + f x] - 2 b B c d^4 \text{Cos}[e + f x] + 5 A b d^5 \text{Cos}[e + f x] - 3 a B d^5 \text{Cos}[e + f x]\right)\right) \Big/$$

$$\left.\left(3 (b c - a d)^3 (c^2 - d^2)^2 (c + d \text{Sin}[e + f x])\right)\right) +$$

$$\frac{1}{3 (a - b) (a + b) (c - d)^2 (c + d)^2 (-b c + a d)^3 f}$$

$$\left(-\frac{1}{(a + b) (c + d) \sqrt{a + b \text{Sin}[e + f x]} \sqrt{c + d \text{Sin}[e + f x]}}\right.$$

$$4\,(-b\,c+a\,d)\,\left(-3\,a\,A\,b^3\,c^5+3\,b^4\,B\,c^5+9\,a^2\,A\,b^2\,c^4\,d-9\,A\,b^4\,c^4\,d-9\,a^3\,A\,b\,c^3\,d^2+15\,a\,A\,b^3\,c^3\,d^2-a^2\,b^2\,B\,c^3\,d^2-5\,b^4\,B\,c^3\,d^2+3\,a^4\,A\,c^2\,d^3-20\,a^2\,A\,b^2\,c^2\,d^3+17\,A\,b^4\,c^2\,d^3+10\,a^3\,b\,B\,c^2\,d^3-10\,a\,b^3\,B\,c^2\,d^3+5\,a^3\,A\,b\,c\,d^4-8\,a\,A\,b^3\,c\,d^4-4\,a^4\,B\,c\,d^4+5\,a^2\,b^2\,B\,c\,d^4+2\,b^4\,B\,c\,d^4+a^4\,A\,d^5+7\,a^2\,A\,b^2\,d^5-8\,A\,b^4\,d^5-6\,a^3\,b\,B\,d^5+6\,a\,b^3\,B\,d^5\right)\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\right]$$

$$\text{Sec}[e+f\,x]\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}\;-$$

$$4\,(-b\,c+a\,d)\,\left(-3\,A\,b^4\,c^5+3\,a\,b^3\,B\,c^5-3\,a\,A\,b^3\,c^4\,d+9\,a^2\,b^2\,B\,c^4\,d-6\,b^4\,B\,c^4\,d-9\,a^2\,A\,b^2\,c^3\,d^2+15\,A\,b^4\,c^3\,d^2+5\,a^3\,b\,B\,c^3\,d^2-11\,a\,b^3\,B\,c^3\,d^2-5\,a^3\,A\,b\,c^2\,d^3+11\,a\,A\,b^3\,c^2\,d^3-a^4\,B\,c^2\,d^3-7\,a^2\,b^2\,B\,c^2\,d^3+2\,b^4\,B\,c^2\,d^3+4\,a^4\,A\,c\,d^4+a^2\,A\,b^2\,c\,d^4-8\,A\,b^4\,c\,d^4-5\,a^3\,b\,B\,c\,d^4+8\,a\,b^3\,B\,c\,d^4+5\,a^3\,A\,b\,d^5-8\,a\,A\,b^3\,d^5-3\,a^4\,B\,d^5+6\,a^2\,b^2\,B\,d^5\right)\left(\left(\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\right.\right.$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\right]\,\text{Sec}[$$

$$e+f\,x]\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(a+b\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}\right)\Big/$$

$$\left((a+b)\,(c+d)\,\sqrt{a+b\,\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)-$$

$$\left(\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\,\text{EllipticPi}\left[\frac{-b\,c+a\,d}{(a+b)\,d},\right.\right.$$

$$\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(c+d\,\text{Sin}[e+f x])}{-b c+a d}}}{\sqrt{2}}\right],\ \frac{2\,(-b c+a d)}{(a+b)\,(-c+d)}\right]\,\text{Sec}[e+f x]$$

$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^4\sqrt{\frac{(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(a+b\,\text{Sin}[e+f x])}{-b c+a d}}$$

$$\left.\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2\,(c+d\,\text{Sin}[e+f x])}{-b c+a d}}\right)\Bigg/$$

$$\left.\left((a+b)\,d\,\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\right)+$$

$$2\,\left(3 A b^4 c^4 d-3 a b^3 B c^4 d-6 a^2 b^2 B c^3 d^2+6 b^4 B c^3 d^2+9 a^2 A b^2 c^2 d^3-15 A b^4 c^2 d^3+\right.$$
$$a^3 b B c^2 d^3+5 a b^3 B c^2 d^3-4 a^3 A b c d^4+4 a A b^3 c d^4+2 a^2 b^2 B c d^4-2 b^4 B c d^4-$$

$$\left.5 a^2 A b^2 d^5+8 A b^4 d^5+3 a^3 b B d^5-6 a b^3 B d^5\right)\left(\frac{\text{Cos}[e+f x]\,\sqrt{c+d\,\text{Sin}[e+f x]}}{d\,\sqrt{a+b\,\text{Sin}[e+f x]}}+\right.$$

$$\left(\sqrt{\frac{a-b}{a+b}}\,(a+b)\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\frac{a-b}{a+b}}\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]}{\sqrt{\frac{a+b\,\text{Sin}[e+f x]}{a+b}}}\right],\right.\right.$$

$$\left.\left.\frac{2\,(-b c+a d)}{(a-b)\,(c+d)}\right]\,\sqrt{c+d\,\text{Sin}[e+f x]}\right)\Bigg/\left(b\,d\,\sqrt{\frac{(a+b)\,\text{Cos}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{a+b\,\text{Sin}[e+f x]}}\right.$$

$$\left.\sqrt{a+b\,\text{Sin}[e+f x]}\,\sqrt{\frac{a+b\,\text{Sin}[e+f x]}{a+b}}\,\sqrt{\frac{(a+b)\,(c+d\,\text{Sin}[e+f x])}{(c+d)\,(a+b\,\text{Sin}[e+f x])}}\right)-$$

$$\frac{1}{b d}\,2\,(-b c+a d)\left(\left(\left((a+b)\,c+a d\right)\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f x\right)\right]^2}{-c+d}}\right.\right.$$

$$\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\ \frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\right]$$

$$\text{Sec}[e+f\,x]\,\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\sqrt{\left(\frac{1}{-b\,c+a\,d}(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right.}$$

$$\left.\left.(a+b\,\text{Sin}[e+f\,x])\right)\sqrt{\left(-\frac{1}{-b\,c+a\,d}(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[\right.}\right.$$

$$\left.\left.e+f\,x])\right)\right)\Big/\left((a+b)\,(c+d)\,\sqrt{a+b\,\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)-$$

$$\left((b\,c+a\,d)\sqrt{\frac{(c+d)\,\text{Cot}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2}{-c+d}}\ \text{EllipticPi}\left[\frac{-b\,c+a\,d}{(a+b)\,d},\ \text{ArcSin}\left[\right.\right.\right.$$

$$\left.\left.\frac{\sqrt{-\frac{(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\,(c+d\,\text{Sin}[e+f\,x])}{-b\,c+a\,d}}}{\sqrt{2}}\right],\ \frac{2\,(-b\,c+a\,d)}{(a+b)\,(-c+d)}\right]\,\text{Sec}[e+f\,x]$$

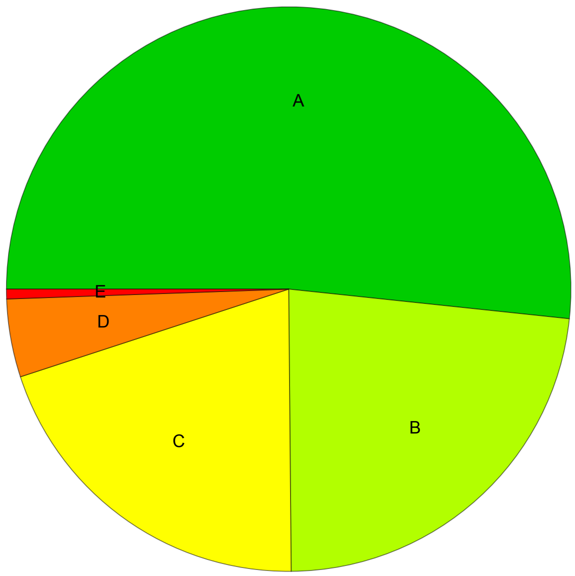
$$\text{Sin}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^4\sqrt{\left(\frac{1}{-b\,c+a\,d}(c+d)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right.}$$

$$\left.(a+b\,\text{Sin}[e+f\,x])\right)\sqrt{\left(-\frac{1}{-b\,c+a\,d}(a+b)\,\text{Csc}\left[\frac{1}{2}\left(-e+\frac{\pi}{2}-f\,x\right)\right]^2\right.}$$

$$\left.\left.(c+d\,\text{Sin}[e+f\,x])\right)\right)\Big/\left((a+b)\,d\,\sqrt{a+b\,\text{Sin}[e+f\,x]}\,\sqrt{c+d\,\text{Sin}[e+f\,x]}\right)\Bigg)\Bigg)\Bigg)$$

Summary of Integration Test Results

358 integration problems



A - 185 optimal antiderivatives

B - 83 more than twice size of optimal antiderivatives

C - 72 unnecessarily complex antiderivatives

D - 16 unable to integrate problems

E - 2 integration timeouts