Rubi 4.16.0.4 Integration Test Results

on the problems in the test-suite directory "2 Exponentials"

Test results for the 98 problems in "2.1 u (F^(c (a+b x)))^n.m"

Test results for the 93 problems in "2.2 (c+d x)^m (F^(g (e+f x)))^n (a+b (F^(g (e+f x)))^n)^p.m"

Test results for the 774 problems in "2.3 Exponential functions.m"

Problem 70: Result unnecessarily involves higher level functions.

$$\int f^{a+b\,x^2}\,x^{11}\,dx$$

Optimal (type 3, 78 leaves, 1 step):

$$-\frac{1}{2\,b^6\,\text{Log}[f]^6}f^{a+b\,x^2}\left(120-120\,b\,x^2\,\text{Log}[f]+60\,b^2\,x^4\,\text{Log}[f]^2-20\,b^3\,x^6\,\text{Log}[f]^3+5\,b^4\,x^8\,\text{Log}[f]^4-b^5\,x^{10}\,\text{Log}[f]^5\right)$$

Result (type 4, 24 leaves, 1 step):

$$-\frac{f^a\,\text{Gamma}\left[6,\,-b\,x^2\,\text{Log}[f]\right]}{2\,b^6\,\text{Log}[f]^6}$$

Problem 71: Result unnecessarily involves higher level functions.

$$\int f^{a+b\,x^2}\,x^{9}\,dx$$

Optimal (type 3, 65 leaves, 1 step):

$$\frac{1}{2\,b^5\,\text{Log}[f]^5}f^{a+b\,x^2}\left(24-24\,b\,x^2\,\text{Log}[f]+12\,b^2\,x^4\,\text{Log}[f]^2-4\,b^3\,x^6\,\text{Log}[f]^3+b^4\,x^8\,\text{Log}[f]^4\right)$$

Result (type 4, 24 leaves, 1 step):

$$\frac{f^a\,\text{Gamma}\left[5,\,-b\,x^2\,\text{Log}[f]\right]}{2\,b^5\,\text{Log}[f]^5}$$

Problem 96: Result unnecessarily involves higher level functions.

$$\int f^{a+b\,x^3}\,x^{17}\,dx$$

Optimal (type 3, 78 leaves, 1 step):

$$-\frac{1}{3\,b^6\,\text{Log}[f]^6}f^{a+b\,x^3}\left(120-120\,b\,x^3\,\text{Log}[f]+60\,b^2\,x^6\,\text{Log}[f]^2-20\,b^3\,x^9\,\text{Log}[f]^3+5\,b^4\,x^{12}\,\text{Log}[f]^4-b^5\,x^{15}\,\text{Log}[f]^5\right)$$

Result (type 4, 24 leaves, 1 step):

$$-\frac{f^a\,\text{Gamma}\left[6,\,-b\,x^3\,\text{Log}[f]\right]}{3\,b^6\,\text{Log}[f]^6}$$

Problem 97: Result unnecessarily involves higher level functions.

$$\int f^{a+b\,x^3}\,x^{14}\,dx$$

Optimal (type 3, 65 leaves, 1 step):

$$\frac{1}{3\,b^5\,\text{Log}[f]^5}f^{a+b\,x^3}\left(24-24\,b\,x^3\,\text{Log}[f]+12\,b^2\,x^6\,\text{Log}[f]^2-4\,b^3\,x^9\,\text{Log}[f]^3+b^4\,x^{12}\,\text{Log}[f]^4\right)$$

Result (type 4, 24 leaves, 1 step):

$$\frac{f^a\,\text{Gamma}\left[5,\,-b\,x^3\,\text{Log}[f]\right]}{3\,b^5\,\text{Log}[f]^5}$$

Problem 126: Result unnecessarily involves higher level functions.

$$\int\frac{f^{a+\frac{b}{x}}}{x^6}\,dx$$

Optimal (type 3, 65 leaves, 1 step):

$$-\frac{1}{b^5\,x^4\,\text{Log}[f]^5}f^{a+\frac{b}{x}}\left(24\,x^4-24\,b\,x^3\,\text{Log}[f]+12\,b^2\,x^2\,\text{Log}[f]^2-4\,b^3\,x\,\text{Log}[f]^3+b^4\,\text{Log}[f]^4\right)$$

Result (type 4, 22 leaves, 1 step):

$$-\frac{f^a\,\text{Gamma}\left[5,\,-\frac{b\,\text{Log}[f]}{x}\right]}{b^5\,\text{Log}[f]^5}$$

Problem 127: Result unnecessarily involves higher level functions.

$$\int\frac{f^{a+\frac{b}{x}}}{x^7}\,dx$$

Optimal (type 3, 77 leaves, 1 step):

$$\frac{1}{b^6 x^5 \text{Log}[f]^6} f^{a+\frac{b}{x}} \left(120 x^5 - 120 b x^4 \text{Log}[f] + 60 b^2 x^3 \text{Log}[f]^2 - 20 b^3 x^2 \text{Log}[f]^3 + 5 b^4 x \text{Log}[f]^4 - b^5 \text{Log}[f]^5\right)$$

Result (type 4, 21 leaves, 1 step):

$$\frac{f^a \text{Gamma}\left[6, -\frac{b \text{Log}[f]}{x}\right]}{b^6 \text{Log}[f]^6}$$

Problem 139: Result unnecessarily involves higher level functions.

$$\int \frac{f^{a+\frac{b}{x^2}}}{x^{11}} dx$$

Optimal (type 3, 69 leaves, 1 step):

$$-\frac{1}{2 b^5 x^8 \text{Log}[f]^5} f^{a+\frac{b}{x^2}} \left(24 x^8 - 24 b x^6 \text{Log}[f] + 12 b^2 x^4 \text{Log}[f]^2 - 4 b^3 x^2 \text{Log}[f]^3 + b^4 \text{Log}[f]^4\right)$$

Result (type 4, 24 leaves, 1 step):

$$-\frac{f^a \text{Gamma}\left[5, -\frac{b \text{Log}[f]}{x^2}\right]}{2 b^5 \text{Log}[f]^5}$$

Problem 140: Result unnecessarily involves higher level functions.

$$\int \frac{f^{a+\frac{b}{x^2}}}{x^{13}} dx$$

Optimal (type 3, 82 leaves, 1 step):

$$\frac{1}{2 b^6 x^{10} \text{Log}[f]^6} f^{a+\frac{b}{x^2}} \left(120 x^{10} - 120 b x^8 \text{Log}[f] + 60 b^2 x^6 \text{Log}[f]^2 - 20 b^3 x^4 \text{Log}[f]^3 + 5 b^4 x^2 \text{Log}[f]^4 - b^5 \text{Log}[f]^5\right)$$

Result (type 4, 24 leaves, 1 step):

$$\frac{f^a \text{Gamma}\left[6, -\frac{b \text{Log}[f]}{x^2}\right]}{2 b^6 \text{Log}[f]^6}$$

Problem 165: Result unnecessarily involves higher level functions.

$$\int \frac{f^{a+\frac{b}{x^3}}}{x^{16}} dx$$

Optimal (type 3, 69 leaves, 1 step):

$$-\frac{1}{3\,b^5\,x^{12}\,\text{Log}[f]^5}f^{a+\frac{b}{x^3}}\left(24\,x^{12}-24\,b\,x^9\,\text{Log}[f]+12\,b^2\,x^6\,\text{Log}[f]^2-4\,b^3\,x^3\,\text{Log}[f]^3+b^4\,\text{Log}[f]^4\right)$$

Result (type 4, 24 leaves, 1 step):

$$-\frac{f^a\,\text{Gamma}\left[5,-\frac{b\,\text{Log}[f]}{x^3}\right]}{3\,b^5\,\text{Log}[f]^5}$$

Problem 166: Result unnecessarily involves higher level functions.

$$\int\frac{f^{a+\frac{b}{x^3}}}{x^{19}}\,dx$$

Optimal (type 3, 82 leaves, 1 step):

$$\frac{1}{3\,b^6\,x^{15}\,\text{Log}[f]^6}f^{a+\frac{b}{x^3}}\left(120\,x^{15}-120\,b\,x^{12}\,\text{Log}[f]+60\,b^2\,x^9\,\text{Log}[f]^2-20\,b^3\,x^6\,\text{Log}[f]^3+5\,b^4\,x^3\,\text{Log}[f]^4-b^5\,\text{Log}[f]^5\right)$$

Result (type 4, 24 leaves, 1 step):

$$\frac{f^a\,\text{Gamma}\left[6,-\frac{b\,\text{Log}[f]}{x^3}\right]}{3\,b^6\,\text{Log}[f]^6}$$

Problem 255: Result unnecessarily involves higher level functions.

$$\int F^{a+b\,(c+d\,x)^2}\,(c+d\,x)^{11}\,dx$$

Optimal (type 3, 105 leaves, 1 step):

$$-\frac{1}{2\,b^6\,d\,\text{Log}[F]^6}F^{a+b\,(c+d\,x)^2}\left(120-120\,b\,(c+d\,x)^2\,\text{Log}[F]+60\,b^2\,(c+d\,x)^4\,\text{Log}[F]^2-20\,b^3\,(c+d\,x)^6\,\text{Log}[F]^3+5\,b^4\,(c+d\,x)^8\,\text{Log}[F]^4-b^5\,(c+d\,x)^{10}\,\text{Log}[F]^5\right)$$

Result (type 4, 31 leaves, 1 step):

$$-\frac{F^a\,\text{Gamma}\left[6,-b\,(c+d\,x)^2\,\text{Log}[F]\right]}{2\,b^6\,d\,\text{Log}[F]^6}$$

Problem 256: Result unnecessarily involves higher level functions.

$$\int F^{a+b\,(c+d\,x)^2}\,(c+d\,x)^9\,dx$$

Optimal (type 3, 88 leaves, 1 step):

$$\frac{1}{2\,b^5\,d\,\text{Log}[F]^5}F^{a+b\,(c+d\,x)^2}\left(24-24\,b\,(c+d\,x)^2\,\text{Log}[F]+12\,b^2\,(c+d\,x)^4\,\text{Log}[F]^2-4\,b^3\,(c+d\,x)^6\,\text{Log}[F]^3+b^4\,(c+d\,x)^8\,\text{Log}[F]^4\right)$$

Result (type 4, 31 leaves, 1 step):

$$\frac{F^a\,\text{Gamma}\left[5,\,-b\,(c+d\,x)^2\,\text{Log}[F]\right]}{2\,b^5\,d\,\text{Log}[F]^5}$$

Problem 281: Result unnecessarily involves higher level functions.

$$\int F^{a+b\,(c+d\,x)^3}\,(c+d\,x)^{17}\,\mathbb{d}x$$

Optimal (type 3, 105 leaves, 1 step):

$$-\frac{1}{3\,b^6\,d\,\text{Log}[F]^6}F^{a+b\,(c+d\,x)^3}\left(120-120\,b\,(c+d\,x)^3\,\text{Log}[F]+60\,b^2\,(c+d\,x)^6\,\text{Log}[F]^2-20\,b^3\,(c+d\,x)^9\,\text{Log}[F]^3+5\,b^4\,(c+d\,x)^{12}\,\text{Log}[F]^4-b^5\,(c+d\,x)^{15}\,\text{Log}[F]^5\right)$$

Result (type 4, 31 leaves, 1 step):

$$-\frac{F^a\,\text{Gamma}\left[6,\,-b\,(c+d\,x)^3\,\text{Log}[F]\right]}{3\,b^6\,d\,\text{Log}[F]^6}$$

Problem 282: Result unnecessarily involves higher level functions.

$$\int F^{a+b\,(c+d\,x)^3}\,(c+d\,x)^{14}\,\mathbb{d}x$$

Optimal (type 3, 88 leaves, 1 step):

$$\frac{1}{3\,b^5\,d\,\text{Log}[F]^5}F^{a+b\,(c+d\,x)^3}\left(24-24\,b\,(c+d\,x)^3\,\text{Log}[F]+12\,b^2\,(c+d\,x)^6\,\text{Log}[F]^2-4\,b^3\,(c+d\,x)^9\,\text{Log}[F]^3+b^4\,(c+d\,x)^{12}\,\text{Log}[F]^4\right)$$

Result (type 4, 31 leaves, 1 step):

$$\frac{F^a\,\text{Gamma}\left[5,\,-b\,(c+d\,x)^3\,\text{Log}[F]\right]}{3\,b^5\,d\,\text{Log}[F]^5}$$

Problem 312: Result unnecessarily involves higher level functions.

$$\int\frac{F^{a+\frac{b}{c+d\,x}}}{(c+d\,x)^6}\,\mathbb{d}x$$

Optimal (type 3, 92 leaves, 1 step):

$$-\left(\left(F^{a+\frac{b}{c+d\,x}}\left(24\,(c+d\,x)^4-24\,b\,(c+d\,x)^3\,\text{Log}[F]+12\,b^2\,(c+d\,x)^2\,\text{Log}[F]^2-4\,b^3\,(c+d\,x)\,\text{Log}[F]^3+b^4\,\text{Log}[F]^4\right)\right)\Big/\left(b^5\,d\,(c+d\,x)^4\,\text{Log}[F]^5\right)\right)$$

Result (type 4, 29 leaves, 1 step):

$$-\frac{F^a\,\text{Gamma}\left[5,-\frac{b\,\text{Log}[F]}{c+d\,x}\right]}{b^5\,d\,\text{Log}[F]^5}$$

Problem 313: Result unnecessarily involves higher level functions.

$$\int\frac{F^{a+\frac{b}{c+d\,x}}}{(c+d\,x)^7}\,dx$$

Optimal (type 3, 108 leaves, 1 step):

$$\left(F^{a+\frac{b}{c+d\,x}}\left(120\,(c+d\,x)^5-120\,b\,(c+d\,x)^4\,\text{Log}[F]+60\,b^2\,(c+d\,x)^3\,\text{Log}[F]^2-20\,b^3\,(c+d\,x)^2\,\text{Log}[F]^3+5\,b^4\,(c+d\,x)\,\text{Log}[F]^4-b^5\,\text{Log}[F]^5\right)\right)\Big/\left(b^6\,d\,(c+d\,x)^5\,\text{Log}[F]^6\right)$$

Result (type 4, 28 leaves, 1 step):

$$\frac{F^a\,\text{Gamma}\left[6,-\frac{b\,\text{Log}[F]}{c+d\,x}\right]}{b^6\,d\,\text{Log}[F]^6}$$

Problem 325: Result unnecessarily involves higher level functions.

$$\int\frac{F^{a+\frac{b}{(c+d\,x)^2}}}{(c+d\,x)^{11}}\,dx$$

Optimal (type 3, 96 leaves, 1 step):

$$-\left(\left(F^{a+\frac{b}{(c+d\,x)^2}}\left(24\,(c+d\,x)^8-24\,b\,(c+d\,x)^6\,\text{Log}[F]+12\,b^2\,(c+d\,x)^4\,\text{Log}[F]^2-4\,b^3\,(c+d\,x)^2\,\text{Log}[F]^3+b^4\,\text{Log}[F]^4\right)\right)\Big/\left(2\,b^5\,d\,(c+d\,x)^8\,\text{Log}[F]^5\right)\right)$$

Result (type 4, 31 leaves, 1 step):

$$-\frac{F^a\,\text{Gamma}\left[5,-\frac{b\,\text{Log}[F]}{(c+d\,x)^2}\right]}{2\,b^5\,d\,\text{Log}[F]^5}$$

Problem 326: Result unnecessarily involves higher level functions.

$$\int\frac{F^{a+\frac{b}{(c+d\,x)^2}}}{(c+d\,x)^{13}}\,dx$$

Optimal (type 3, 113 leaves, 1 step):

$$\left(F^{a+\frac{b}{(c+d\,x)^2}}\left(120\,(c+d\,x)^{10}-120\,b\,(c+d\,x)^{8}\,\text{Log}[F]+60\,b^2\,(c+d\,x)^{6}\,\text{Log}[F]^2-\right.\right.$$
$$\left.\left.20\,b^3\,(c+d\,x)^{4}\,\text{Log}[F]^3+5\,b^4\,(c+d\,x)^{2}\,\text{Log}[F]^4-b^5\,\text{Log}[F]^5\right)\right)\Big/\left(2\,b^6\,d\,(c+d\,x)^{10}\,\text{Log}[F]^6\right)$$

Result (type 4, 31 leaves, 1 step):

$$\frac{F^a\,\text{Gamma}\left[6,\,-\frac{b\,\text{Log}[F]}{(c+d\,x)^2}\right]}{2\,b^6\,d\,\text{Log}[F]^6}$$

Problem 351: Result unnecessarily involves higher level functions.

$$\int\frac{F^{a+\frac{b}{(c+d\,x)^3}}}{(c+d\,x)^{16}}\,dx$$

Optimal (type 3, 96 leaves, 1 step):

$$-\left(\left(F^{a+\frac{b}{(c+d\,x)^3}}\left(24\,(c+d\,x)^{12}-24\,b\,(c+d\,x)^{9}\,\text{Log}[F]+12\,b^2\,(c+d\,x)^{6}\,\text{Log}[F]^2-\right.\right.\right.$$
$$\left.\left.\left.4\,b^3\,(c+d\,x)^{3}\,\text{Log}[F]^3+b^4\,\text{Log}[F]^4\right)\right)\Big/\left(3\,b^5\,d\,(c+d\,x)^{12}\,\text{Log}[F]^5\right)\right)$$

Result (type 4, 31 leaves, 1 step):

$$-\frac{F^a\,\text{Gamma}\left[5,\,-\frac{b\,\text{Log}[F]}{(c+d\,x)^3}\right]}{3\,b^5\,d\,\text{Log}[F]^5}$$

Problem 352: Result unnecessarily involves higher level functions.

$$\int\frac{F^{a+\frac{b}{(c+d\,x)^3}}}{(c+d\,x)^{19}}\,dx$$

Optimal (type 3, 113 leaves, 1 step):

$$\left(F^{a+\frac{b}{(c+d\,x)^3}}\left(120\,(c+d\,x)^{15}-120\,b\,(c+d\,x)^{12}\,\text{Log}[F]+60\,b^2\,(c+d\,x)^{9}\,\text{Log}[F]^2-\right.\right.$$
$$\left.\left.20\,b^3\,(c+d\,x)^{6}\,\text{Log}[F]^3+5\,b^4\,(c+d\,x)^{3}\,\text{Log}[F]^4-b^5\,\text{Log}[F]^5\right)\right)\Big/\left(3\,b^6\,d\,(c+d\,x)^{15}\,\text{Log}[F]^6\right)$$

Result (type 4, 31 leaves, 1 step):

$$\frac{F^a\,\text{Gamma}\left[6,\,-\frac{b\,\text{Log}[F]}{(c+d\,x)^3}\right]}{3\,b^6\,d\,\text{Log}[F]^6}$$

Problem 368: Result unnecessarily involves higher level functions.

$$\int F^{a+b\,(c+d\,x)^n}\,(c+d\,x)^{-1+6\,n}\,dx$$

Optimal (type 3, 114 leaves, 1 step):

$$-\frac{1}{b^6\, d\, n\, \text{Log}[F]^6}F^{a+b\,(c+d\,x)^n}\left(120-120\,b\,(c+d\,x)^n\,\text{Log}[F]+60\,b^2\,(c+d\,x)^{2\,n}\,\text{Log}[F]^2-20\,b^3\,(c+d\,x)^{3\,n}\,\text{Log}[F]^3+5\,b^4\,(c+d\,x)^{4\,n}\,\text{Log}[F]^4-b^5\,(c+d\,x)^{5\,n}\,\text{Log}[F]^5\right)$$

Result (type 4, 32 leaves, 1 step):

$$-\frac{F^a\,\text{Gamma}\left[6,\,-b\,(c+d\,x)^n\,\text{Log}[F]\right]}{b^6\, d\, n\, \text{Log}[F]^6}$$

Problem 369: Result unnecessarily involves higher level functions.

$$\int F^{a+b\,(c+d\,x)^n}\,(c+d\,x)^{-1+5\,n}\,dx$$

Optimal (type 3, 94 leaves, 1 step):

$$\frac{1}{b^5\, d\, n\, \text{Log}[F]^5}F^{a+b\,(c+d\,x)^n}\left(24-24\,b\,(c+d\,x)^n\,\text{Log}[F]+12\,b^2\,(c+d\,x)^{2\,n}\,\text{Log}[F]^2-4\,b^3\,(c+d\,x)^{3\,n}\,\text{Log}[F]^3+b^4\,(c+d\,x)^{4\,n}\,\text{Log}[F]^4\right)$$

Result (type 4, 31 leaves, 1 step):

$$\frac{F^a\,\text{Gamma}\left[5,\,-b\,(c+d\,x)^n\,\text{Log}[F]\right]}{b^5\, d\, n\, \text{Log}[F]^5}$$

Problem 586: Result optimal but 1 more steps used.

$$\int e^{\text{Log}\left[(d+e\,x)^n\right]^2}\,(d+e\,x)^m\,dx$$

Optimal (type 4, 76 leaves, 3 steps):

$$\frac{e^{-\frac{(1+m)^2}{4\,n^2}}\,\sqrt{\pi}\,(d+e\,x)^{1+m}\,\left((d+e\,x)^n\right)^{-\frac{1+m}{n}}\,\text{Erfi}\left[\frac{1+m+2\,n\,\text{Log}\left[(d+e\,x)^n\right]}{2\,n}\right]}{2\,e\,n}$$

Result (type 4, 76 leaves, 4 steps):

$$\frac{e^{-\frac{(1+m)^2}{4\,n^2}}\,\sqrt{\pi}\,(d+e\,x)^{1+m}\,\left((d+e\,x)^n\right)^{-\frac{1+m}{n}}\,\text{Erfi}\left[\frac{1+m+2\,n\,\text{Log}\left[(d+e\,x)^n\right]}{2\,n}\right]}{2\,e\,n}$$

Problem 587: Result valid but suboptimal antiderivative.

$$\int F^{f\,\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]^2\right)}\,(d\,g+e\,g\,x)^m\,dx$$

Optimal (type 4, 137 leaves, 3 steps):

$$\left(e^{-\frac{(1+m)^2}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,\sqrt{\pi}\,\left(c\,(d+e\,x)^n\right)^{-\frac{1+m}{n}}\,(d\,g+e\,g\,x)^{1+m}\,\text{Erfi}\left[\frac{1+m+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,g\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 4, 136 leaves, 4 steps):

$$\left(e^{-\frac{(1+m)^2}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,\sqrt{\pi}\,(g\,(d+e\,x))^{1+m}\,\left(c\,(d+e\,x)^n\right)^{-\frac{1+m}{n}}\,\text{Erfi}\left[\frac{1+m+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,g\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 588: Result optimal but 2 more steps used.

$$\int F^{f\,\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]^2\right)}\,(d\,g+e\,g\,x)^2\,\mathbb{d}x$$

Optimal (type 4, 123 leaves, 3 steps):

$$\left(e^{-\frac{9}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,g^2\,\sqrt{\pi}\,(d+e\,x)^3\,\left(c\,(d+e\,x)^n\right)^{-3/n}\,\text{Erfi}\left[\frac{3+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 4, 123 leaves, 5 steps):

$$\left(e^{-\frac{9}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,g^2\,\sqrt{\pi}\,(d+e\,x)^3\,\left(c\,(d+e\,x)^n\right)^{-3/n}\,\text{Erfi}\left[\frac{3+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 589: Result optimal but 2 more steps used.

$$\int F^{f\,\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]^2\right)}\,(d\,g+e\,g\,x)\,\mathbb{d}x$$

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

$$\left(e^{-\frac{1}{b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,g\,\sqrt{\pi}\,(d+e\,x)^2\,\left(c\,(d+e\,x)^n\right)^{-2/n}\,\text{Erfi}\left[\frac{1+b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 4, 115 leaves, 5 steps):

$$\left(e^{-\frac{1}{b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,g\,\sqrt{\pi}\,(d+e\,x)^2\,\left(c\,(d+e\,x)^n\right)^{-2/n}\,\text{Erfi}\left[\frac{1+b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 590: Result optimal but 1 more steps used.

$$\int F^{f\,\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]^2\right)}\,\mathbb{d}x$$

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

$$\left(e^{-\frac{1}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,\sqrt{\pi}\,\left(d+e\,x\right)\,\left(c\,\left(d+e\,x\right)^n\right)^{-1/n}\,\text{Erfi}\left[\frac{1+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 4, 118 leaves, 4 steps):

$$\left(e^{-\frac{1}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,\sqrt{\pi}\,\left(d+e\,x\right)\,\left(c\,\left(d+e\,x\right)^n\right)^{-1/n}\,\text{Erfi}\left[\frac{1+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 591: Result optimal but 2 more steps used.

$$\int\frac{F^{f\,\left(a+b\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]^2\right)}}{d\,g+e\,g\,x}\,\mathbb{d}x$$

Optimal (type 4, 67 leaves, 2 steps):

$$\frac{F^{a\,f}\,\sqrt{\pi}\,\text{Erfi}\left[\sqrt{b}\,\sqrt{f}\,\sqrt{\text{Log}[F]}\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]\right]}{2\,\sqrt{b}\,e\,\sqrt{f}\,g\,n\,\sqrt{\text{Log}[F]}}$$

Result (type 4, 67 leaves, 4 steps):

$$\frac{F^{a\,f}\,\sqrt{\pi}\,\text{Erfi}\left[\sqrt{b}\,\sqrt{f}\,\sqrt{\text{Log}[F]}\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]\right]}{2\,\sqrt{b}\,e\,\sqrt{f}\,g\,n\,\sqrt{\text{Log}[F]}}$$

Problem 592: Result optimal but 2 more steps used.

$$\int\frac{F^{f\,\left(a+b\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]^2\right)}}{\left(d\,g+e\,g\,x\right)^2}\,\mathbb{d}x$$

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

$$-\frac{e^{-\frac{1}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,\sqrt{\pi}\,\left(c\,\left(d+e\,x\right)^n\right)^{\frac{1}{n}}\,\text{Erfi}\left[\frac{1-2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]}{2\,\sqrt{b}\,e\,\sqrt{f}\,g^2\,n\,\left(d+e\,x\right)\,\sqrt{\text{Log}[F]}}$$

Result (type 4, 121 leaves, 5 steps):

$$-\frac{e^{-\frac{1}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,\sqrt{\pi}\,\left(c\,\left(d+e\,x\right)^n\right)^{\frac{1}{n}}\,\text{Erfi}\left[\frac{1-2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]}{2\,\sqrt{b}\,e\,\sqrt{f}\,g^2\,n\,\left(d+e\,x\right)\,\sqrt{\text{Log}[F]}}$$

Problem 593: Result optimal but 2 more steps used.

$$\int\frac{F^{f\,\left(a+b\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]^2\right)}}{\left(d\,g+e\,g\,x\right)^3}\,\mathbb{d}x$$

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

$$-\frac{e^{-\frac{1}{b f n^2 \text{Log}[F]}} F^{a f} \sqrt{\pi}\ \left(c\ (d+e x)^n\right)^{2/n} \text{Erfi}\left[\frac{1-b f n \text{Log}[F] \text{Log}\left[c\ (d+e x)^n\right]}{\sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]}{2 \sqrt{b}\ e \sqrt{f}\ g^3 n\ (d+e x)^2 \sqrt{\text{Log}[F]}}$$

Result (type 4, 118 leaves, 5 steps) :

$$-\frac{e^{-\frac{1}{b f n^2 \text{Log}[F]}} F^{a f} \sqrt{\pi}\ \left(c\ (d+e x)^n\right)^{2/n} \text{Erfi}\left[\frac{1-b f n \text{Log}[F] \text{Log}\left[c\ (d+e x)^n\right]}{\sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]}{2 \sqrt{b}\ e \sqrt{f}\ g^3 n\ (d+e x)^2 \sqrt{\text{Log}[F]}}$$

Problem 594: Result valid but suboptimal antiderivative.

$$\int F^{f\left(a+b \text{Log}\left[c\ (d+e x)^n\right]^2\right)}\ (g+h x)^m\, dx$$

Optimal (type 8, 30 leaves, 0 steps) :

$$\text{Unintegrable}\left[F^{f\left(a+b \text{Log}\left[c\ (d+e x)^n\right]^2\right)}\ (g+h x)^m, x\right]$$

Result (type 8, 30 leaves, 0 steps) :

$$\text{CannotIntegrate}\left[F^{f\left(a+b \text{Log}\left[c\ (d+e x)^n\right]^2\right)}\ (g+h x)^m, x\right]$$

Problem 595: Unable to integrate problem.

$$\int F^{f\left(a+b \text{Log}\left[c\ (d+e x)^n\right]^2\right)}\ (g+h x)^3\, dx$$

Optimal (type 4, 502 leaves, 14 steps) :

$$\left(3\, e^{-\frac{1}{b f n^2 \text{Log}[F]}} F^{a f} h\ (e g-d h)^2 \sqrt{\pi}\ (d+e x)^2 \left(c\ (d+e x)^n\right)^{-2/n}\right.$$
$$\left.\text{Erfi}\left[\frac{1+b f n \text{Log}[F] \text{Log}\left[c\ (d+e x)^n\right]}{\sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/ \left(2 \sqrt{b}\ e^4 \sqrt{f}\ n \sqrt{\text{Log}[F]}\right) +$$
$$\left(e^{-\frac{4}{b f n^2 \text{Log}[F]}} F^{a f} h^3 \sqrt{\pi}\ (d+e x)^4 \left(c\ (d+e x)^n\right)^{-4/n} \text{Erfi}\left[\frac{2+b f n \text{Log}[F] \text{Log}\left[c\ (d+e x)^n\right]}{\sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/$$
$$\left(2 \sqrt{b}\ e^4 \sqrt{f}\ n \sqrt{\text{Log}[F]}\right) + \left(e^{-\frac{1}{4 b f n^2 \text{Log}[F]}} F^{a f}\ (e g-d h)^3 \sqrt{\pi}\ (d+e x) \left(c\ (d+e x)^n\right)^{-1/n}\right.$$
$$\left.\text{Erfi}\left[\frac{1+2 b f n \text{Log}[F] \text{Log}\left[c\ (d+e x)^n\right]}{2 \sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/ \left(2 \sqrt{b}\ e^4 \sqrt{f}\ n \sqrt{\text{Log}[F]}\right) +$$
$$\left(3\, e^{-\frac{9}{4 b f n^2 \text{Log}[F]}} F^{a f} h^2\ (e g-d h) \sqrt{\pi}\ (d+e x)^3 \left(c\ (d+e x)^n\right)^{-3/n}\right.$$
$$\left.\text{Erfi}\left[\frac{3+2 b f n \text{Log}[F] \text{Log}\left[c\ (d+e x)^n\right]}{2 \sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/ \left(2 \sqrt{b}\ e^4 \sqrt{f}\ n \sqrt{\text{Log}[F]}\right)$$

Result (type 8, 214 leaves, 6 steps):

$$3\,g^2\,h\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n]^2)}\,x,\,x\right]+3\,g\,h^2\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n]^2)}\,x^2,\,x\right]+h^3\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n]^2)}\,x^3,\,x\right]+\left(e^{-\frac{1}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,g^3\,\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-1/n}\,\text{Erfi}\left[\frac{1+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 596: Unable to integrate problem.

$$\int F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n]^2)}\,(g+h\,x)^2\,\mathbb{d}x$$

Optimal (type 4, 372 leaves, 11 steps):

$$\left(e^{-\frac{1}{b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,h\,(e\,g-d\,h)\,\sqrt{\pi}\,(d+e\,x)^2\,\left(c\,(d+e\,x)^n\right)^{-2/n}\,\text{Erfi}\left[\frac{1+b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(\sqrt{b}\,e^3\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)+\left(e^{-\frac{1}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,(e\,g-d\,h)^2\,\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-1/n}\,\text{Erfi}\left[\frac{1+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e^3\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)+\left(e^{-\frac{9}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,h^2\,\sqrt{\pi}\,(d+e\,x)^3\,\left(c\,(d+e\,x)^n\right)^{-3/n}\,\text{Erfi}\left[\frac{3+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e^3\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 8, 180 leaves, 6 steps):

$$2\,g\,h\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n]^2)}\,x,\,x\right]+h^2\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n]^2)}\,x^2,\,x\right]+\left(e^{-\frac{1}{4\,b\,f\,n^2\,\text{Log}[F]}}\,F^{a\,f}\,g^2\,\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-1/n}\,\text{Erfi}\left[\frac{1+2\,b\,f\,n\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,\sqrt{b}\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,\sqrt{b}\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 597: Unable to integrate problem.

$$\int F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n]^2)}\,(g+h\,x)\,\mathbb{d}x$$

Optimal (type 4, 242 leaves, 8 steps):

$$\left(e^{-\frac{1}{b f n^2 \text{Log}[F]}} F^{a f} h \sqrt{\pi}\ (d+e x)^2 \left(c (d+e x)^n\right)^{-2/n} \text{Erfi}\left[\frac{1+b f n \text{Log}[F] \text{Log}\left[c (d+e x)^n\right]}{\sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/ \left(2 \sqrt{b}\ e^2 \sqrt{f}\ n \sqrt{\text{Log}[F]}\right) + \left(e^{-\frac{1}{4 b f n^2 \text{Log}[F]}} F^{a f} (e g - d h) \sqrt{\pi}\ (d+e x) \left(c (d+e x)^n\right)^{-1/n} \text{Erfi}\left[\frac{1+2 b f n \text{Log}[F] \text{Log}\left[c (d+e x)^n\right]}{2 \sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/ \left(2 \sqrt{b}\ e^2 \sqrt{f}\ n \sqrt{\text{Log}[F]}\right)$$

Result (type 8, 146 leaves, 6 steps):

$$h\ \text{CannotIntegrate}\left[F^{f (a+b \text{Log}\left[c (d+e x)^n\right]^2)}\ x, x\right] + \left(e^{-\frac{1}{4 b f n^2 \text{Log}[F]}} F^{a f} g \sqrt{\pi}\ (d+e x) \left(c (d+e x)^n\right)^{-1/n} \text{Erfi}\left[\frac{1+2 b f n \text{Log}[F] \text{Log}\left[c (d+e x)^n\right]}{2 \sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/ \left(2 \sqrt{b}\ e \sqrt{f}\ n \sqrt{\text{Log}[F]}\right)$$

Problem 598: Result optimal but 1 more steps used.

$$\int F^{f (a+b \text{Log}\left[c (d+e x)^n\right]^2)}\ dx$$

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

$$\left(e^{-\frac{1}{4 b f n^2 \text{Log}[F]}} F^{a f} \sqrt{\pi}\ (d+e x) \left(c (d+e x)^n\right)^{-1/n} \text{Erfi}\left[\frac{1+2 b f n \text{Log}[F] \text{Log}\left[c (d+e x)^n\right]}{2 \sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/ \left(2 \sqrt{b}\ e \sqrt{f}\ n \sqrt{\text{Log}[F]}\right)$$

Result (type 4, 118 leaves, 4 steps):

$$\left(e^{-\frac{1}{4 b f n^2 \text{Log}[F]}} F^{a f} \sqrt{\pi}\ (d+e x) \left(c (d+e x)^n\right)^{-1/n} \text{Erfi}\left[\frac{1+2 b f n \text{Log}[F] \text{Log}\left[c (d+e x)^n\right]}{2 \sqrt{b}\ \sqrt{f}\ n \sqrt{\text{Log}[F]}}\right]\right) \Big/ \left(2 \sqrt{b}\ e \sqrt{f}\ n \sqrt{\text{Log}[F]}\right)$$

Problem 599: Result valid but suboptimal antiderivative.

$$\int \frac{F^{f (a+b \text{Log}\left[c (d+e x)^n\right]^2)}}{g+h x}\ dx$$

Optimal (type 8, 30 leaves, 0 steps):

$$\text{Unintegrable}\left[\frac{F^{f (a+b \text{Log}\left[c (d+e x)^n\right]^2)}}{g+h x}, x\right]$$

Result (type 8, 30 leaves, 0 steps):

$$\text{CannotIntegrate}\left[\frac{F^{f (a+b \text{Log}\left[c (d+e x)^n\right]^2)}}{g+h x}, x\right]$$

Problem 600: Result valid but suboptimal antiderivative.

$$\int \frac{F^{f\left(a+b\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]^2\right)}}{(g+h\,x)^2}\,dx$$

Optimal (type 8, 30 leaves, 0 steps):

$$\mathrm{Unintegrable}\left[\frac{F^{f\left(a+b\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]^2\right)}}{(g+h\,x)^2},\,x\right]$$

Result (type 8, 30 leaves, 0 steps):

$$\mathrm{CannotIntegrate}\left[\frac{F^{f\left(a+b\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]^2\right)}}{(g+h\,x)^2},\,x\right]$$

Problem 601: Result valid but suboptimal antiderivative.

$$\int \frac{F^{f\left(a+b\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]^2\right)}}{(g+h\,x)^3}\,dx$$

Optimal (type 8, 30 leaves, 0 steps):

$$\mathrm{Unintegrable}\left[\frac{F^{f\left(a+b\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]^2\right)}}{(g+h\,x)^3},\,x\right]$$

Result (type 8, 30 leaves, 0 steps):

$$\mathrm{CannotIntegrate}\left[\frac{F^{f\left(a+b\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]^2\right)}}{(g+h\,x)^3},\,x\right]$$

Problem 602: Result valid but suboptimal antiderivative.

$$\int F^{f\left(a+b\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]\right)^2}\,(d\,g+e\,g\,x)^m\,dx$$

Optimal (type 4, 153 leaves, 4 steps):

$$\left(e^{-\frac{\left(1+m+2\,a\,b\,f\,n\,\mathrm{Log}[F]\right)^2}{4\,b^2\,f\,n^2\,\mathrm{Log}[F]}}\,F^{a^2\,f}\,\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-\frac{1+m}{n}}\,(d\,g+e\,g\,x)^m\right.$$
$$\left.\mathrm{Erfi}\left[\frac{1+m+2\,a\,b\,f\,n\,\mathrm{Log}[F]+2\,b^2\,f\,n\,\mathrm{Log}[F]\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,n\,\sqrt{\mathrm{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\mathrm{Log}[F]}\right)$$

Result (type 4, 152 leaves, 8 steps):

$$\left(e^{-\frac{\left(1+m+2\,a\,b\,f\,n\,\mathrm{Log}[F]\right)^2}{4\,b^2\,f\,n^2\,\mathrm{Log}[F]}}\,F^{a^2\,f}\,\sqrt{\pi}\,(d+e\,x)\,\left(g\,(d+e\,x)\right)^m\,\left(c\,(d+e\,x)^n\right)^{-\frac{1+m}{n}}\right.$$
$$\left.\mathrm{Erfi}\left[\frac{1+m+2\,a\,b\,f\,n\,\mathrm{Log}[F]+2\,b^2\,f\,n\,\mathrm{Log}[F]\,\mathrm{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,n\,\sqrt{\mathrm{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\mathrm{Log}[F]}\right)$$

Problem 603: Result optimal but 4 more steps used.

$$\int F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}\,\left(d\,g+e\,g\,x\right)^2\,dx$$

Optimal (type 4, 133 leaves, 4 steps):

$$\left(e^{-\frac{3\left(3+4\,a\,b\,f\,n\,\text{Log}[F]\right)}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,g^2\,\sqrt{\pi}\,\left(d+e\,x\right)^3\,\left(c\,\left(d+e\,x\right)^n\right)^{-3/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{3}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 4, 133 leaves, 8 steps):

$$\left(e^{-\frac{3\left(3+4\,a\,b\,f\,n\,\text{Log}[F]\right)}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,g^2\,\sqrt{\pi}\,\left(d+e\,x\right)^3\,\left(c\,\left(d+e\,x\right)^n\right)^{-3/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{3}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 604: Result optimal but 4 more steps used.

$$\int F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}\,\left(d\,g+e\,g\,x\right)\,dx$$

Optimal (type 4, 122 leaves, 4 steps):

$$\left(e^{-\frac{1+2\,a\,b\,f\,n\,\text{Log}[F]}{b^2\,f\,n^2\,\text{Log}[F]}}\,g\,\sqrt{\pi}\,\left(d+e\,x\right)^2\,\left(c\,\left(d+e\,x\right)^n\right)^{-2/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+a\,b\,f\,\text{Log}[F]+b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 4, 122 leaves, 8 steps):

$$\left(e^{-\frac{1+2\,a\,b\,f\,n\,\text{Log}[F]}{b^2\,f\,n^2\,\text{Log}[F]}}\,g\,\sqrt{\pi}\,\left(d+e\,x\right)^2\,\left(c\,\left(d+e\,x\right)^n\right)^{-2/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+a\,b\,f\,\text{Log}[F]+b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 605: Result optimal but 3 more steps used.

$$\int F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}\,dx$$

Optimal (type 4, 126 leaves, 4 steps):

$$\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 4, 126 leaves, 7 steps):

$$\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 606: Result optimal but 4 more steps used.

$$\int\frac{F^{f\,\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}}{d\,g+e\,g\,x}\,dx$$

Optimal (type 4, 70 leaves, 4 steps):

$$\frac{\sqrt{\pi}\,\text{Erfi}\left[a\,\sqrt{f}\,\sqrt{\text{Log}[F]}+b\,\sqrt{f}\,\sqrt{\text{Log}[F]}\,\text{Log}\left[c\,(d+e\,x)^n\right]\right]}{2\,b\,e\,\sqrt{f}\,g\,n\,\sqrt{\text{Log}[F]}}$$

Result (type 4, 70 leaves, 8 steps):

$$\frac{\sqrt{\pi}\,\text{Erfi}\left[a\,\sqrt{f}\,\sqrt{\text{Log}[F]}+b\,\sqrt{f}\,\sqrt{\text{Log}[F]}\,\text{Log}\left[c\,(d+e\,x)^n\right]\right]}{2\,b\,e\,\sqrt{f}\,g\,n\,\sqrt{\text{Log}[F]}}$$

Problem 607: Result optimal but 4 more steps used.

$$\int\frac{F^{f\,\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}}{\left(d\,g+e\,g\,x\right)^2}\,dx$$

Optimal (type 4, 128 leaves, 4 steps):

$$-\left(\left(e^{\frac{a}{b\,n}-\frac{1}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\sqrt{\pi}\,\left(c\,(d+e\,x)^n\right)^{\frac{1}{n}}\,\text{Erfi}\left[\frac{\frac{1}{n}-2\,a\,b\,f\,\text{Log}[F]-2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\right.$$

$$\left.\left(2\,b\,e\,\sqrt{f}\,g^2\,n\,(d+e\,x)\,\sqrt{\text{Log}[F]}\right)\right)$$

Result (type 4, 128 leaves, 8 steps):

$$-\left(\left(e^{\frac{a}{b\,n}-\frac{1}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\sqrt{\pi}\,\left(c\,\left(d+e\,x\right)^n\right)^{\frac{1}{n}}\,\text{Erfi}\left[\frac{\frac{1}{n}-2\,a\,b\,f\,\text{Log}[F]-2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,g^2\,n\,\left(d+e\,x\right)\,\sqrt{\text{Log}[F]}\right)\right)$$

Problem 608: Result optimal but 4 more steps used.

$$\int\frac{F^{f\,\left(a+b\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]\right)^2}}{\left(d\,g+e\,g\,x\right)^3}\,\mathbb{d}x$$

Optimal (type 4, 126 leaves, 4 steps):

$$-\left(\left(e^{-\frac{1-2\,a\,b\,f\,n\,\text{Log}[F]}{b^2\,f\,n^2\,\text{Log}[F]}}\sqrt{\pi}\,\left(c\,\left(d+e\,x\right)^n\right)^{2/n}\,\text{Erfi}\left[\frac{\frac{1}{n}-a\,b\,f\,\text{Log}[F]-b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,g^3\,n\,\left(d+e\,x\right)^2\,\sqrt{\text{Log}[F]}\right)\right)$$

Result (type 4, 126 leaves, 8 steps):

$$-\left(\left(e^{-\frac{1-2\,a\,b\,f\,n\,\text{Log}[F]}{b^2\,f\,n^2\,\text{Log}[F]}}\sqrt{\pi}\,\left(c\,\left(d+e\,x\right)^n\right)^{2/n}\,\text{Erfi}\left[\frac{\frac{1}{n}-a\,b\,f\,\text{Log}[F]-b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,g^3\,n\,\left(d+e\,x\right)^2\,\sqrt{\text{Log}[F]}\right)\right)$$

Problem 609: Result valid but suboptimal antiderivative.

$$\int F^{f\,\left(a+b\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]\right)^2}\,\left(g+h\,x\right)^m\,\mathbb{d}x$$

Optimal (type 8, 30 leaves, 0 steps):

$$\texttt{Unintegrable}\left[F^{f\,\left(a+b\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]\right)^2}\,\left(g+h\,x\right)^m,\,x\right]$$

Result (type 8, 30 leaves, 0 steps):

$$\texttt{CannotIntegrate}\left[F^{f\,\left(a+b\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]\right)^2}\,\left(g+h\,x\right)^m,\,x\right]$$

Problem 610: Unable to integrate problem.

$$\int F^{f\,\left(a+b\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]\right)^2}\,\left(g+h\,x\right)^3\,\mathbb{d}x$$

Optimal (type 4, 535 leaves, 18 steps):

$$\left(3\, e^{-\frac{1+2\,a\,b\,f\,n\,\text{Log}[F]}{b^2\,f\,n^2\,\text{Log}[F]}}\, h\,(e\,g-d\,h)^2\,\sqrt{\pi}\,(d+e\,x)^2\right.$$

$$\left.(c\,(d+e\,x)^n)^{-2/n}\,\text{Erfi}\left[\frac{\frac{1}{n}+a\,b\,f\,\text{Log}[F]+b^2\,f\,\text{Log}[F]\,\text{Log}[c\,(d+e\,x)^n]}{b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/$$

$$\left(2\,b\,e^4\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)+\left(e^{-\frac{4\,(1+a\,b\,f\,n\,\text{Log}[F])}{b^2\,f\,n^2\,\text{Log}[F]}}\,h^3\,\sqrt{\pi}\,(d+e\,x)^4\,(c\,(d+e\,x)^n)^{-4/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{2}{n}+a\,b\,f\,\text{Log}[F]+b^2\,f\,\text{Log}[F]\,\text{Log}[c\,(d+e\,x)^n]}{b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e^4\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)+$$

$$\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,(e\,g-d\,h)^3\,\sqrt{\pi}\,(d+e\,x)\,(c\,(d+e\,x)^n)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}[c\,(d+e\,x)^n]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e^4\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)+$$

$$\left(3\,e^{-\frac{3\,(3+4\,a\,b\,f\,n\,\text{Log}[F])}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,h^2\,(e\,g-d\,h)\,\sqrt{\pi}\,(d+e\,x)^3\,(c\,(d+e\,x)^n)^{-3/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{3}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}[c\,(d+e\,x)^n]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e^4\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 8, 222 leaves, 9 steps):

$$3\,g^2\,h\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n])^2}\,x,\,x\right]+$$
$$3\,g\,h^2\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n])^2}\,x^2,\,x\right]+$$
$$h^3\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n])^2}\,x^3,\,x\right]+\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,g^3\,\sqrt{\pi}\,(d+e\,x)\,(c\,(d+e\,x)^n)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}[c\,(d+e\,x)^n]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 611: Unable to integrate problem.

$$\int F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n])^2}\,(g+h\,x)^2\,\mathbb{d}x$$

Optimal (type 4, 397 leaves, 14 steps):

$$\left(e^{-\frac{1+2\,a\,b\,f\,n\,\text{Log}[F]}{b^2\,f\,n^2\,\text{Log}[F]}}\,h\,(e\,g-d\,h)\,\sqrt{\pi}\,(d+e\,x)^2\,\left(c\,(d+e\,x)^n\right)^{-2/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+a\,b\,f\,\text{Log}[F]+b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(b\,e^3\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)+$$

$$\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,(e\,g-d\,h)^2\,\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/$$

$$\left(2\,b\,e^3\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)+\left(e^{-\frac{3\,(3+4\,a\,b\,f\,n\,\text{Log}[F])}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,h^2\,\sqrt{\pi}\,(d+e\,x)^3\,\left(c\,(d+e\,x)^n\right)^{-3/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{3}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e^3\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 8, 188 leaves, 9 steps):

$$2\,g\,h\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n])^2}\,x,\,x\right]+$$

$$h^2\,\text{CannotIntegrate}\left[F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n])^2}\,x^2,\,x\right]+\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,g^2\,\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 612: Unable to integrate problem.

$$\int F^{f\,(a+b\,\text{Log}[c\,(d+e\,x)^n])^2}\,(g+h\,x)\,\mathbb{d}x$$

Optimal (type 4, 257 leaves, 10 steps):

$$\left(e^{-\frac{1+2\,a\,b\,f\,n\,\text{Log}[F]}{b^2\,f\,n^2\,\text{Log}[F]}}\,h\,\sqrt{\pi}\,(d+e\,x)^2\,\left(c\,(d+e\,x)^n\right)^{-2/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+a\,b\,f\,\text{Log}[F]+b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e^2\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)+$$

$$\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,(e\,g-d\,h)\,\sqrt{\pi}\,(d+e\,x)\,\left(c\,(d+e\,x)^n\right)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,(d+e\,x)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e^2\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 8, 154 leaves, 9 steps):

$$h\,\text{CannotIntegrate}\left[F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}\,x,\,x\right]+\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,g\,\sqrt{\pi}\,\left(d+e\,x\right)\,\left(c\,\left(d+e\,x\right)^n\right)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 613: Result optimal but 3 more steps used.

$$\int F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}\,dx$$

Optimal (type 4, 126 leaves, 4 steps):

$$\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,\sqrt{\pi}\,\left(d+e\,x\right)\,\left(c\,\left(d+e\,x\right)^n\right)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Result (type 4, 126 leaves, 7 steps):

$$\left(e^{-\frac{1+4\,a\,b\,f\,n\,\text{Log}[F]}{4\,b^2\,f\,n^2\,\text{Log}[F]}}\,\sqrt{\pi}\,\left(d+e\,x\right)\,\left(c\,\left(d+e\,x\right)^n\right)^{-1/n}\right.$$

$$\left.\text{Erfi}\left[\frac{\frac{1}{n}+2\,a\,b\,f\,\text{Log}[F]+2\,b^2\,f\,\text{Log}[F]\,\text{Log}\left[c\,\left(d+e\,x\right)^n\right]}{2\,b\,\sqrt{f}\,\sqrt{\text{Log}[F]}}\right]\right)\Big/\left(2\,b\,e\,\sqrt{f}\,n\,\sqrt{\text{Log}[F]}\right)$$

Problem 614: Result valid but suboptimal antiderivative.

$$\int\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}}{g+h\,x}\,dx$$

Optimal (type 8, 30 leaves, 0 steps):

$$\text{Unintegrable}\left[\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}}{g+h\,x},\,x\right]$$

Result (type 8, 30 leaves, 0 steps):

$$\text{CannotIntegrate}\left[\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}}{g+h\,x},\,x\right]$$

Problem 615: Result valid but suboptimal antiderivative.

$$\int\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^n\right]\right)^2}}{\left(g+h\,x\right)^2}\,dx$$

Optimal (type 8, 30 leaves, 0 steps):

$$\text{Unintegrable}\left[\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^{n}\right]\right)^{2}}}{(g+h\,x)^{2}},\,x\right]$$

Result (type 8, 30 leaves, 0 steps):

$$\text{CannotIntegrate}\left[\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^{n}\right]\right)^{2}}}{(g+h\,x)^{2}},\,x\right]$$

Problem 616: Result valid but suboptimal antiderivative.

$$\int\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^{n}\right]\right)^{2}}}{(g+h\,x)^{3}}\,dx$$

Optimal (type 8, 30 leaves, 0 steps):

$$\text{Unintegrable}\left[\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^{n}\right]\right)^{2}}}{(g+h\,x)^{3}},\,x\right]$$

Result (type 8, 30 leaves, 0 steps):

$$\text{CannotIntegrate}\left[\frac{F^{f\left(a+b\,\text{Log}\left[c\,(d+e\,x)^{n}\right]\right)^{2}}}{(g+h\,x)^{3}},\,x\right]$$

Problem 692: Unable to integrate problem.

$$\int e^{x^{x}}\,x^{2\,x}\,\left(1+\text{Log}\left[x\right]\right)\,dx$$

Optimal (type 3, 11 leaves, ? steps):

$$e^{x^{x}}\left(-1+x^{x}\right)$$

Result (type 8, 29 leaves, 2 steps):

$$\text{CannotIntegrate}\left[e^{x^{x}}\,x^{2\,x},\,x\right]+\text{CannotIntegrate}\left[e^{x^{x}}\,x^{2\,x}\,\text{Log}\left[x\right],\,x\right]$$

Problem 694: Unable to integrate problem.

$$\int x^{-2-\frac{1}{x}}\,\left(1-\text{Log}\left[x\right]\right)\,dx$$

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

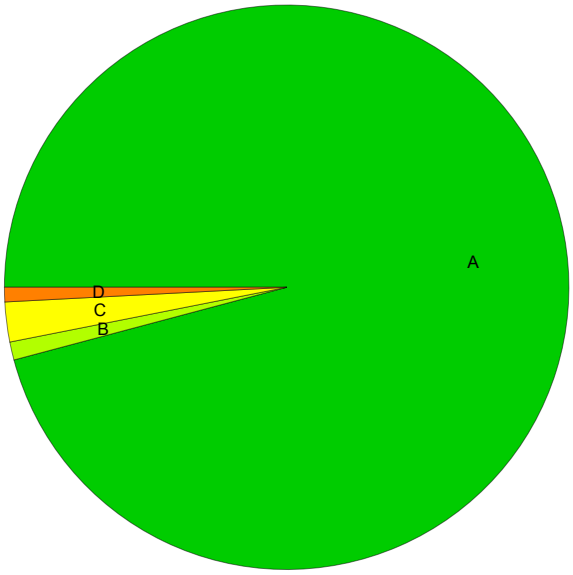
$$-x^{-1/x}$$

Result (type 8, 28 leaves, 2 steps):

$$\text{CannotIntegrate}\left[x^{-2-\frac{1}{x}},\,x\right]-\text{CannotIntegrate}\left[x^{-2-\frac{1}{x}}\,\text{Log}\left[x\right],\,x\right]$$

Summary of Integration Test Results

965 integration problems



A - 925 optimal antiderivatives

B - 10 valid but suboptimal antiderivatives

C - 22 unnecessarily complex antiderivatives

D - 8 unable to integrate problems

E - 0 integration timeouts

F - 0 invalid antiderivatives