Mathematica 7 Test Results

For Rational Function Integration Problems

Rational function problems involving linear polynomials

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^3}{x^5}, x, 1, 0\right\}$$

$$-\frac{(a+b x)^4}{4 a x^4}$$

$$-\frac{a^3+4 a^2 b x+6 a b^2 x^2+4 b^3 x^3}{4 x^4}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x (a+b x)^7, x, 2, 0\right\}$$

$$-\frac{a (a+b x)^8}{72 b^2}+\frac{x (a+b x)^8}{9 b}$$

$$\frac{a^7 x^2}{2}+\frac{7}{3} a^6 b x^3+\frac{21}{4} a^5 b^2 x^4+7 a^4 b^3 x^5+\frac{35}{6} a^3 b^4 x^6+3 a^2 b^5 x^7+\frac{7}{8} a b^6 x^8+\frac{b^7 x^9}{9}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^7}{x^9}, x, 1, 0\right\}$$

$$-\frac{(a+b x)^8}{8 a x^8}$$

$$-\frac{a^7+8 a^6 b x+28 a^5 b^2 x^2+56 a^4 b^3 x^3+70 a^3 b^4 x^4+56 a^2 b^5 x^5+28 a b^6 x^6+8 b^7 x^7}{8 x^8}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^7}{x^{10}}, x, 2, 0\right\}$$

$$-\frac{(a+b x)^8}{9 a x^9}+\frac{b (a+b x)^8}{72 a^2 x^8}$$

$$-\frac{1}{72 x^9}\left(8 a^7+63 a^6 b x+216 a^5 b^2 x^2+420 a^4 b^3 x^3+504 a^3 b^4 x^4+378 a^2 b^5 x^5+168 a b^6 x^6+36 b^7 x^7\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^5}{(a+b x)^7}, x, 1, 0\right\}$$

$$\frac{x^6}{6 a (a+b x)^6}$$

$$-\frac{a^5+6 a^4 b x+15 a^3 b^2 x^2+20 a^2 b^3 x^3+15 a b^4 x^4+6 b^5 x^5}{6 b^6 (a+b x)^6}$$

Valid but unnecessarily complicated antiderivative:

$\{(a+b x)^4 (c+d x), x, 2, 0\}$

$$\frac{(6 b c-a d) (a+b x)^5}{30 b^2}+\frac{d x (a+b x)^5}{6 b}$$

$$\frac{1}{30} x \left(15 a^4 (2 c+d x)+20 a^3 b x (3 c+2 d x)+15 a^2 b^2 x^2 (4 c+3 d x)+6 a b^3 x^3 (5 c+4 d x)+b^4 x^4 (6 c+5 d x)\right)$$

Valid but unnecessarily complicated antiderivative:

$\{(a+b x)^5 (c+d x), x, 2, 0\}$

$$\frac{(7 b c-a d) (a+b x)^6}{42 b^2}+\frac{d x (a+b x)^6}{7 b}$$

$$a^5 c x+\frac{1}{2} a^4 (5 b c+a d) x^2+\frac{5}{3} a^3 b (2 b c+a d) x^3+\frac{5}{2} a^2 b^2 (b c+a d) x^4+a b^3 (b c+2 a d) x^5+\frac{1}{6} b^4 (b c+5 a d) x^6+\frac{1}{7} b^5 d x^7$$

Valid but unnecessarily complicated antiderivative:

$\{(a+b x)^4 (c+d x)^2, x, 3, 0\}$

$$\frac{(b c-a d)^2 (a+b x)^5}{105 b^3}+\frac{(b c-a d) (a+b x)^5 (c+d x)}{21 b^2}+\frac{(a+b x)^5 (c+d x)^2}{7 b}$$

$$a^4 c^2 x+a^3 c (2 b c+a d) x^2+\frac{1}{3} a^2 \left(6 b^2 c^2+8 a b c d+a^2 d^2\right) x^3+$$
$$a b \left(b^2 c^2+3 a b c d+a^2 d^2\right) x^4+\frac{1}{5} b^2 \left(b^2 c^2+8 a b c d+6 a^2 d^2\right) x^5+\frac{1}{3} b^3 d (b c+2 a d) x^6+\frac{1}{7} b^4 d^2 x^7$$

Valid but unnecessarily complicated antiderivative:

$\{(a+b x)^5 (c+d x)^2, x, 3, 0\}$

$$\frac{(b c-a d)^2 (a+b x)^6}{168 b^3}+\frac{(b c-a d) (a+b x)^6 (c+d x)}{28 b^2}+\frac{(a+b x)^6 (c+d x)^2}{8 b}$$

$$a^5 c^2 x+\frac{1}{2} a^4 c (5 b c+2 a d) x^2+\frac{1}{3} a^3 \left(10 b^2 c^2+10 a b c d+a^2 d^2\right) x^3+\frac{5}{4} a^2 b \left(2 b^2 c^2+4 a b c d+a^2 d^2\right) x^4+$$
$$a b^2 \left(b^2 c^2+4 a b c d+2 a^2 d^2\right) x^5+\frac{1}{6} b^3 \left(b^2 c^2+10 a b c d+10 a^2 d^2\right) x^6+\frac{1}{7} b^4 d (2 b c+5 a d) x^7+\frac{1}{8} b^5 d^2 x^8$$

Valid but unnecessarily complicated antiderivative:

$\{(a+b x)^4 (c+d x)^3, x, 4, 0\}$

$$\frac{(b c-a d)^3 (a+b x)^5}{280 b^4}+\frac{(b c-a d)^2 (a+b x)^5 (c+d x)}{56 b^3}+\frac{3 (b c-a d) (a+b x)^5 (c+d x)^2}{56 b^2}+\frac{(a+b x)^5 (c+d x)^3}{8 b}$$

$$a^4 c^3 x+\frac{1}{2} a^3 c^2 (4 b c+3 a d) x^2+a^2 c \left(2 b^2 c^2+4 a b c d+a^2 d^2\right) x^3+\frac{1}{4} a \left(4 b^3 c^3+18 a b^2 c^2 d+12 a^2 b c d^2+a^3 d^3\right) x^4+$$
$$\frac{1}{5} b \left(b^3 c^3+12 a b^2 c^2 d+18 a^2 b c d^2+4 a^3 d^3\right) x^5+\frac{1}{2} b^2 d \left(b^2 c^2+4 a b c d+2 a^2 d^2\right) x^6+\frac{1}{7} b^3 d^2 (3 b c+4 a d) x^7+\frac{1}{8} b^4 d^3 x^8$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(a+b x)^5 (c+d x)^3, x, 4, 0\right\}$$

$$\frac{(b c-a d)^3 (a+b x)^6}{504 b^4}+\frac{(b c-a d)^2 (a+b x)^6 (c+d x)}{84 b^3}+\frac{(b c-a d) (a+b x)^6 (c+d x)^2}{24 b^2}+\frac{(a+b x)^6 (c+d x)^3}{9 b}$$

$$\frac{1}{504} x \left(126 a^5 \left(4 c^3+6 c^2 d x+4 c d^2 x^2+d^3 x^3\right)+126 a^4 b x \left(10 c^3+20 c^2 d x+15 c d^2 x^2+4 d^3 x^3\right)+84 a^3 b^2 x^2 \left(20 c^3+45 c^2 d x+36 c d^2 x^2+10 d^3 x^3\right)+36 a^2 b^3 x^3 \left(35 c^3+84 c^2 d x+70 c d^2 x^2+20 d^3 x^3\right)+9 a b^4 x^4 \left(56 c^3+140 c^2 d x+120 c d^2 x^2+35 d^3 x^3\right)+b^5 x^5 \left(84 c^3+216 c^2 d x+189 c d^2 x^2+56 d^3 x^3\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^6}{(c+d x)^2}, x, 8, 0\right\}$$

$$\frac{5 b^2 (b c-a d)^4 x}{d^6}-\frac{2 b (b c-a d)^3 (a+b x)^2}{d^5}+\frac{b (b c-a d)^2 (a+b x)^3}{d^4}-\frac{b (b c-a d) (a+b x)^4}{2 d^3}+\frac{b (a+b x)^5}{5 d^2}-\frac{(b c-a d)^6}{d^7 (c+d x)}-\frac{6 b (b c-a d)^5 \mathrm{Log}[c+d x]}{d^7}$$

$$\frac{1}{10 d^7 (c+d x)} \left(60 a^5 b c d^5-10 a^6 d^6+150 a^4 b^2 d^4 \left(-c^2+c d x+d^2 x^2\right)+100 a^3 b^3 d^3 \left(2 c^3-4 c^2 d x-3 c d^2 x^2+d^3 x^3\right)+50 a^2 b^4 d^2 \left(-3 c^4+9 c^3 d x+6 c^2 d^2 x^2-2 c d^3 x^3+d^4 x^4\right)+5 a b^5 d \left(12 c^5-48 c^4 d x-30 c^3 d^2 x^2+10 c^2 d^3 x^3-5 c d^4 x^4+3 d^5 x^5\right)+b^6 \left(-10 c^6+50 c^5 d x+30 c^4 d^2 x^2-10 c^3 d^3 x^3+5 c^2 d^4 x^4-3 c d^5 x^5+2 d^6 x^6\right)-60 b (b c-a d)^5 (c+d x) \mathrm{Log}[c+d x]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^5}{(c+d x)^8}, x, 2, 0\right\}$$

$$\frac{(a+b x)^6}{7 (b c-a d) (c+d x)^7}+\frac{b (a+b x)^6}{42 (b c-a d)^2 (c+d x)^6}$$

$$-\frac{1}{42 d^6 (c+d x)^7} \left(6 a^5 d^5+5 a^4 b d^4 (c+7 d x)+4 a^3 b^2 d^3 \left(c^2+7 c d x+21 d^2 x^2\right)+3 a^2 b^3 d^2 \left(c^3+7 c^2 d x+21 c d^2 x^2+35 d^3 x^3\right)+2 a b^4 d \left(c^4+7 c^3 d x+21 c^2 d^2 x^2+35 c d^3 x^3+35 d^4 x^4\right)+b^5 \left(c^5+7 c^4 d x+21 c^3 d^2 x^2+35 c^2 d^3 x^3+35 c d^4 x^4+21 d^5 x^5\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^6}{(c+d x)^8}, x, 1, 0\right\}$$

$$\frac{(a+b x)^7}{7 (b c-a d) (c+d x)^7}$$

$$-\frac{1}{7 d^7 (c+d x)^7} \left(a^6 d^6+a^5 b d^5 (c+7 d x)+a^4 b^2 d^4 \left(c^2+7 c d x+21 d^2 x^2\right)+a^3 b^3 d^3 \left(c^3+7 c^2 d x+21 c d^2 x^2+35 d^3 x^3\right)+a^2 b^4 d^2 \left(c^4+7 c^3 d x+21 c^2 d^2 x^2+35 c d^3 x^3+35 d^4 x^4\right)+a b^5 d \left(c^5+7 c^4 d x+21 c^3 d^2 x^2+35 c^2 d^3 x^3+35 c d^4 x^4+21 d^5 x^5\right)+b^6 \left(c^6+7 c^5 d x+21 c^4 d^2 x^2+35 c^3 d^3 x^3+35 c^2 d^4 x^4+21 c d^5 x^5+7 d^6 x^6\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^8}{(c+d x)^8}, x, 10, 0\right\}$$

$$\frac{b^8 x}{d^8}-\frac{(b c-a d)^8}{7 d^9 (c+d x)^7}+\frac{4 b (b c-a d)^7}{3 d^9 (c+d x)^6}-\frac{28 b^2 (b c-a d)^6}{5 d^9 (c+d x)^5}+\frac{14 b^3 (b c-a d)^5}{d^9 (c+d x)^4}-\frac{70 b^4 (b c-a d)^4}{3 d^9 (c+d x)^3}+\frac{28 b^5 (b c-a d)^3}{d^9 (c+d x)^2}-\frac{28 b^6 (b c-a d)^2}{d^9 (c+d x)}-\frac{8 b^7 (b c-a d) \mathrm{Log}[c+d x]}{d^9}$$

$$-\frac{1}{105 d^9 (c+d x)^7}\Big(15 a^8 d^8+20 a^7 b d^7 (c+7 d x)+28 a^6 b^2 d^6 \left(c^2+7 c d x+21 d^2 x^2\right)+42 a^5 b^3 d^5 \left(c^3+7 c^2 d x+21 c d^2 x^2+35 d^3 x^3\right)+70 a^4 b^4 d^4 \left(c^4+7 c^3 d x+21 c^2 d^2 x^2+35 c d^3 x^3+35 d^4 x^4\right)+140 a^3 b^5 d^3 \left(c^5+7 c^4 d x+21 c^3 d^2 x^2+35 c^2 d^3 x^3+35 c d^4 x^4+21 d^5 x^5\right)+420 a^2 b^6 d^2 \left(c^6+7 c^5 d x+21 c^4 d^2 x^2+35 c^3 d^3 x^3+35 c^2 d^4 x^4+21 c d^5 x^5+7 d^6 x^6\right)-2 a b^7 c d \left(1089 c^6+7203 c^5 d x+20139 c^4 d^2 x^2+30625 c^3 d^3 x^3+26950 c^2 d^4 x^4+13230 c d^5 x^5+2940 d^6 x^6\right)+b^8 \left(1443 c^8+9261 c^7 d x+24843 c^6 d^2 x^2+35525 c^5 d^3 x^3+28175 c^4 d^4 x^4+11025 c^3 d^5 x^5+735 c^2 d^6 x^6-735 c d^7 x^7-105 d^8 x^8\right)+840 b^7 (b c-a d) (c+d x)^7 \mathrm{Log}[c+d x]\Big)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^9}{(c+d x)^8}, x, 11, 0\right\}$$

$$-\frac{8 b^8 (b c-a d) x}{d^9}+\frac{b^7 (a+b x)^2}{2 d^8}+\frac{(b c-a d)^9}{7 d^{10} (c+d x)^7}-\frac{3 b (b c-a d)^8}{2 d^{10} (c+d x)^6}+\frac{36 b^2 (b c-a d)^7}{5 d^{10} (c+d x)^5}-\frac{21 b^3 (b c-a d)^6}{d^{10} (c+d x)^4}+\frac{42 b^4 (b c-a d)^5}{d^{10} (c+d x)^3}-\frac{63 b^5 (b c-a d)^4}{d^{10} (c+d x)^2}+\frac{84 b^6 (b c-a d)^3}{d^{10} (c+d x)}+\frac{36 b^7 (b c-a d)^2 \mathrm{Log}[c+d x]}{d^{10}}$$

$$-\frac{1}{70 d^{10} (c+d x)^7}\Big(10 a^9 d^9+15 a^8 b d^8 (c+7 d x)+24 a^7 b^2 d^7 \left(c^2+7 c d x+21 d^2 x^2\right)+42 a^6 b^3 d^6 \left(c^3+7 c^2 d x+21 c d^2 x^2+35 d^3 x^3\right)+84 a^5 b^4 d^5 \left(c^4+7 c^3 d x+21 c^2 d^2 x^2+35 c d^3 x^3+35 d^4 x^4\right)+210 a^4 b^5 d^4 \left(c^5+7 c^4 d x+21 c^3 d^2 x^2+35 c^2 d^3 x^3+35 c d^4 x^4+21 d^5 x^5\right)+840 a^3 b^6 d^3 \left(c^6+7 c^5 d x+21 c^4 d^2 x^2+35 c^3 d^3 x^3+35 c^2 d^4 x^4+21 c d^5 x^5+7 d^6 x^6\right)-6 a^2 b^7 c d^2 \left(1089 c^6+7203 c^5 d x+20139 c^4 d^2 x^2+30625 c^3 d^3 x^3+26950 c^2 d^4 x^4+13230 c d^5 x^5+2940 d^6 x^6\right)+6 a b^8 d \left(1443 c^8+9261 c^7 d x+24843 c^6 d^2 x^2+35525 c^5 d^3 x^3+28175 c^4 d^4 x^4+11025 c^3 d^5 x^5+735 c^2 d^6 x^6-735 c d^7 x^7-105 d^8 x^8\right)-b^9 \left(3349 c^9+20923 c^8 d x+53949 c^7 d^2 x^2+72275 c^6 d^3 x^3+50225 c^5 d^4 x^4+12495 c^4 d^5 x^5-4655 c^3 d^6 x^6-3185 c^2 d^7 x^7-315 c d^8 x^8+35 d^9 x^9\right)-2520 b^7 (b c-a d)^2 (c+d x)^7 \mathrm{Log}[c+d x]\Big)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^7}{(c+d x)^2}, x, 9, 0\right\}$$

$$-\frac{6 b^2 (b c-a d)^5 x}{d^7}+\frac{5 b (b c-a d)^4 (a+b x)^2}{2 d^6}-\frac{4 b (b c-a d)^3 (a+b x)^3}{3 d^5}+\frac{3 b (b c-a d)^2 (a+b x)^4}{4 d^4}-\frac{2 b (b c-a d) (a+b x)^5}{5 d^3}+\frac{b (a+b x)^6}{6 d^2}+\frac{(b c-a d)^7}{d^8 (c+d x)}+\frac{7 b (b c-a d)^6 \mathrm{Log}[c+d x]}{d^8}$$

$$\frac{1}{60 d^8 (c+d x)}\Big(420 a^6 b c d^6-60 a^7 d^7+1260 a^5 b^2 d^5 \left(-c^2+c d x+d^2 x^2\right)+1050 a^4 b^3 d^4 \left(2 c^3-4 c^2 d x-3 c d^2 x^2+d^3 x^3\right)+700 a^3 b^4 d^3 \left(-3 c^4+9 c^3 d x+6 c^2 d^2 x^2-2 c d^3 x^3+d^4 x^4\right)+105 a^2 b^5 d^2 \left(12 c^5-48 c^4 d x-30 c^3 d^2 x^2+10 c^2 d^3 x^3-5 c d^4 x^4+3 d^5 x^5\right)+42 a b^6 d \left(-10 c^6+50 c^5 d x+30 c^4 d^2 x^2-10 c^3 d^3 x^3+5 c^2 d^4 x^4-3 c d^5 x^5+2 d^6 x^6\right)+b^7 \left(60 c^7-360 c^6 d x-210 c^5 d^2 x^2+70 c^4 d^3 x^3-35 c^3 d^4 x^4+21 c^2 d^5 x^5-14 c d^6 x^6+10 d^7 x^7\right)+420 b (b c-a d)^6 (c+d x) \mathrm{Log}[c+d x]\Big)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b\,x)^7}{(c+d\,x)^3},\,x,\,9,\,0\right\}$$

$$\frac{15\,b^3\,(b\,c-a\,d)^4\,x}{d^7}-\frac{5\,b^2\,(b\,c-a\,d)^3\,(a+b\,x)^2}{d^6}+\frac{2\,b^2\,(b\,c-a\,d)^2\,(a+b\,x)^3}{d^5}-\frac{3\,b^2\,(b\,c-a\,d)\,(a+b\,x)^4}{4\,d^4}+\frac{b^2\,(a+b\,x)^5}{5\,d^3}+\frac{(b\,c-a\,d)^7}{2\,d^8\,(c+d\,x)^2}-\frac{7\,b\,(b\,c-a\,d)^6}{d^8\,(c+d\,x)}-\frac{21\,b^2\,(b\,c-a\,d)^5\,\mathrm{Log}[c+d\,x]}{d^8}$$

$$\frac{1}{20\,d^8\,(c+d\,x)^2}\Big(-10\,a^7\,d^7-70\,a^6\,b\,d^6\,(c+2\,d\,x)+210\,a^5\,b^2\,c\,d^5\,(3\,c+4\,d\,x)+350\,a^4\,b^3\,d^4\,\left(-5\,c^3-4\,c^2\,d\,x+4\,c\,d^2\,x^2+2\,d^3\,x^3\right)+350\,a^3\,b^4\,d^3\,\left(7\,c^4+2\,c^3\,d\,x-11\,c^2\,d^2\,x^2-4\,c\,d^3\,x^3+d^4\,x^4\right)+70\,a^2\,b^5\,d^2\,\left(-27\,c^5+6\,c^4\,d\,x+63\,c^3\,d^2\,x^2+20\,c^2\,d^3\,x^3-5\,c\,d^4\,x^4+2\,d^5\,x^5\right)+35\,a\,b^6\,d\,\left(22\,c^6-16\,c^5\,d\,x-68\,c^4\,d^2\,x^2-20\,c^3\,d^3\,x^3+5\,c^2\,d^4\,x^4-2\,c\,d^5\,x^5+d^6\,x^6\right)+b^7\,\left(-130\,c^7+160\,c^6\,d\,x+500\,c^5\,d^2\,x^2+140\,c^4\,d^3\,x^3-35\,c^3\,d^4\,x^4+14\,c^2\,d^5\,x^5-7\,c\,d^6\,x^6+4\,d^7\,x^7\right)-420\,b^2\,(b\,c-a\,d)^5\,(c+d\,x)^2\,\mathrm{Log}[c+d\,x]\Big)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b\,x)^7}{(c+d\,x)^6},\,x,\,9,\,0\right\}$$

$$-\frac{6\,b^6\,(b\,c-a\,d)\,x}{d^7}+\frac{b^5\,(a+b\,x)^2}{2\,d^6}+\frac{(b\,c-a\,d)^7}{5\,d^8\,(c+d\,x)^5}-\frac{7\,b\,(b\,c-a\,d)^6}{4\,d^8\,(c+d\,x)^4}+\frac{7\,b^2\,(b\,c-a\,d)^5}{d^8\,(c+d\,x)^3}-\frac{35\,b^3\,(b\,c-a\,d)^4}{2\,d^8\,(c+d\,x)^2}+\frac{35\,b^4\,(b\,c-a\,d)^3}{d^8\,(c+d\,x)}+\frac{21\,b^5\,(b\,c-a\,d)^2\,\mathrm{Log}[c+d\,x]}{d^8}$$

$$-\frac{1}{20\,d^8\,(c+d\,x)^5}\Big(4\,a^7\,d^7+7\,a^6\,b\,d^6\,(c+5\,d\,x)+14\,a^5\,b^2\,d^5\,\left(c^2+5\,c\,d\,x+10\,d^2\,x^2\right)+35\,a^4\,b^3\,d^4\,\left(c^3+5\,c^2\,d\,x+10\,c\,d^2\,x^2+10\,d^3\,x^3\right)+140\,a^3\,b^4\,d^3\,\left(c^4+5\,c^3\,d\,x+10\,c^2\,d^2\,x^2+10\,c\,d^3\,x^3+5\,d^4\,x^4\right)-7\,a^2\,b^5\,c\,d^2\,\left(137\,c^4+625\,c^3\,d\,x+1100\,c^2\,d^2\,x^2+900\,c\,d^3\,x^3+300\,d^4\,x^4\right)+14\,a\,b^6\,d\,\left(87\,c^6+375\,c^5\,d\,x+600\,c^4\,d^2\,x^2+400\,c^3\,d^3\,x^3+50\,c^2\,d^4\,x^4-50\,c\,d^5\,x^5-10\,d^6\,x^6\right)-b^7\,\left(459\,c^7+1875\,c^6\,d\,x+2700\,c^5\,d^2\,x^2+1300\,c^4\,d^3\,x^3-400\,c^3\,d^4\,x^4-500\,c^2\,d^5\,x^5-70\,c\,d^6\,x^6+10\,d^7\,x^7\right)-420\,b^5\,(b\,c-a\,d)^2\,(c+d\,x)^5\,\mathrm{Log}[c+d\,x]\Big)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b\,x)^7}{(c+d\,x)^7},\,x,\,9,\,0\right\}$$

$$\frac{b^7\,x}{d^7}+\frac{(b\,c-a\,d)^7}{6\,d^8\,(c+d\,x)^6}-\frac{7\,b\,(b\,c-a\,d)^6}{5\,d^8\,(c+d\,x)^5}+\frac{21\,b^2\,(b\,c-a\,d)^5}{4\,d^8\,(c+d\,x)^4}-\frac{35\,b^3\,(b\,c-a\,d)^4}{3\,d^8\,(c+d\,x)^3}+\frac{35\,b^4\,(b\,c-a\,d)^3}{2\,d^8\,(c+d\,x)^2}-\frac{21\,b^5\,(b\,c-a\,d)^2}{d^8\,(c+d\,x)}-\frac{7\,b^6\,(b\,c-a\,d)\,\mathrm{Log}[c+d\,x]}{d^8}$$

$$-\frac{1}{60\,d^8\,(c+d\,x)^6}\Big(10\,a^7\,d^7+14\,a^6\,b\,d^6\,(c+6\,d\,x)+21\,a^5\,b^2\,d^5\,\left(c^2+6\,c\,d\,x+15\,d^2\,x^2\right)+35\,a^4\,b^3\,d^4\,\left(c^3+6\,c^2\,d\,x+15\,c\,d^2\,x^2+20\,d^3\,x^3\right)+70\,a^3\,b^4\,d^3\,\left(c^4+6\,c^3\,d\,x+15\,c^2\,d^2\,x^2+20\,c\,d^3\,x^3+15\,d^4\,x^4\right)+210\,a^2\,b^5\,d^2\,\left(c^5+6\,c^4\,d\,x+15\,c^3\,d^2\,x^2+20\,c^2\,d^3\,x^3+15\,c\,d^4\,x^4+6\,d^5\,x^5\right)-7\,a\,b^6\,c\,d\,\left(147\,c^5+822\,c^4\,d\,x+1875\,c^3\,d^2\,x^2+2200\,c^2\,d^3\,x^3+1350\,c\,d^4\,x^4+360\,d^5\,x^5\right)+b^7\,\left(669\,c^7+3594\,c^6\,d\,x+7725\,c^5\,d^2\,x^2+8200\,c^4\,d^3\,x^3+4050\,c^3\,d^4\,x^4+360\,c^2\,d^5\,x^5-360\,c\,d^6\,x^6-60\,d^7\,x^7\right)+420\,b^6\,(b\,c-a\,d)\,(c+d\,x)^6\,\mathrm{Log}[c+d\,x]\Big)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b\,x)^7}{(c+d\,x)^9},\,x,\,1,\,0\right\}$$

$$\frac{(a+b x)^8}{8 (b c-a d) (c+d x)^8}$$

$$-\frac{1}{8 d^8 (c+d x)^8}\left(a^7 d^7+a^6 b d^6 (c+8 d x)+a^5 b^2 d^5 \left(c^2+8 c d x+28 d^2 x^2\right)+a^4 b^3 d^4 \left(c^3+8 c^2 d x+28 c d^2 x^2+56 d^3 x^3\right)+a^3 b^4 d^3 \left(c^4+8 c^3 d x+28 c^2 d^2 x^2+56 c d^3 x^3+70 d^4 x^4\right)+a^2 b^5 d^2 \left(c^5+8 c^4 d x+28 c^3 d^2 x^2+56 c^2 d^3 x^3+70 c d^4 x^4+56 d^5 x^5\right)+a b^6 d \left(c^6+8 c^5 d x+28 c^4 d^2 x^2+56 c^3 d^3 x^3+70 c^2 d^4 x^4+56 c d^5 x^5+28 d^6 x^6\right)+b^7 \left(c^7+8 c^6 d x+28 c^5 d^2 x^2+56 c^4 d^3 x^3+70 c^3 d^4 x^4+56 c^2 d^5 x^5+28 c d^6 x^6+8 d^7 x^7\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(a+b x)^7}{(c+d x)^{10}}, x, 2, 0\right\}$$

$$\frac{(a+b x)^8}{9 (b c-a d) (c+d x)^9}+\frac{b (a+b x)^8}{72 (b c-a d)^2 (c+d x)^8}$$

$$-\frac{1}{72 d^8 (c+d x)^9}\left(8 a^7 d^7+7 a^6 b d^6 (c+9 d x)+6 a^5 b^2 d^5 \left(c^2+9 c d x+36 d^2 x^2\right)+5 a^4 b^3 d^4 \left(c^3+9 c^2 d x+36 c d^2 x^2+84 d^3 x^3\right)+4 a^3 b^4 d^3 \left(c^4+9 c^3 d x+36 c^2 d^2 x^2+84 c d^3 x^3+126 d^4 x^4\right)+3 a^2 b^5 d^2 \left(c^5+9 c^4 d x+36 c^3 d^2 x^2+84 c^2 d^3 x^3+126 c d^4 x^4+126 d^5 x^5\right)+2 a b^6 d \left(c^6+9 c^5 d x+36 c^4 d^2 x^2+84 c^3 d^3 x^3+126 c^2 d^4 x^4+126 c d^5 x^5+84 d^6 x^6\right)+b^7 \left(c^7+9 c^6 d x+36 c^5 d^2 x^2+84 c^4 d^3 x^3+126 c^3 d^4 x^4+126 c^2 d^5 x^5+84 c d^6 x^6+36 d^7 x^7\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{2}{-1+4 x^2}, x, 2, 0\right\}$$

$$-\text{ArcTanh}[2 x]$$

$$\frac{1}{2} (\text{Log}[1-2 x]-\text{Log}[1+2 x])$$

Rational function problems involving binomials

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{\left(a+b x^2\right)^5}{x^{13}}, x, 1, 0\right\}$$

$$-\frac{\left(a+b x^2\right)^6}{12 a x^{12}}$$

$$-\frac{a^5+6 a^4 b x^2+15 a^3 b^2 x^4+20 a^2 b^3 x^6+15 a b^4 x^8+6 b^5 x^{10}}{12 x^{12}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{a+b x^2}{1-x^2}, x, 3, 0\right\}$$

$$-b x+(a+b) \text{ArcTanh}[x]$$

$$\frac{1}{2} (-2 b x-(a+b) \text{Log}[-1+x]+(a+b) \text{Log}[1+x])$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^2 \left(a+b x^3\right)^3, x, 2, 0\right\}$$

$$\frac{\left(a+b x^3\right)^4}{12 b}$$

$$\frac{1}{12} x^3 \left(4 a^3+6 a^2 b x^3+4 a b^2 x^6+b^3 x^9\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(1+x)^2}{c+d x^3}, x, 12, 0\right\}$$

$$-\frac{2 \text{ArcTan}\left[\frac{c^{1/3}-2 d^{1/3} x}{\sqrt{3} c^{1/3}}\right]}{\sqrt{3} c^{1/3} d^{2/3}}-\frac{\text{ArcTan}\left[\frac{c^{1/3}-2 d^{1/3} x}{\sqrt{3} c^{1/3}}\right]}{\sqrt{3} c^{2/3} d^{1/3}}-\frac{2 \text{Log}\left[c^{1/3}+d^{1/3} x\right]}{3 c^{1/3} d^{2/3}}+\frac{\text{Log}\left[c^{1/3}+d^{1/3} x\right]}{3 c^{2/3} d^{1/3}}+\frac{\text{Log}\left[c^{2/3}-c^{1/3} d^{1/3} x+d^{2/3} x^2\right]}{3 c^{1/3} d^{2/3}}-\frac{\text{Log}\left[c^{2/3}-c^{1/3} d^{1/3} x+d^{2/3} x^2\right]}{6 c^{2/3} d^{1/3}}+\frac{\text{Log}\left[c+d x^3\right]}{3 d}$$

$$\frac{\text{RootSum}\left[c-d+3 d \#1-3 d \#1^2+d \#1^3 \&, \frac{\text{Log}[1+x-\#1] \#1^2}{1-2 \#1+\#1^2} \&\right]}{3 d}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(1+x)^3}{c+d x^3}, x, 12, 0\right\}$$

$$\frac{x}{d}+\frac{(c-d) \text{ArcTan}\left[\frac{c^{1/3}-2 d^{1/3} x}{\sqrt{3} c^{1/3}}\right]}{\sqrt{3} c^{2/3} d^{4/3}}-\frac{\sqrt{3} \text{ArcTan}\left[\frac{c^{1/3}-2 d^{1/3} x}{\sqrt{3} c^{1/3}}\right]}{c^{1/3} d^{2/3}}-\frac{(c-d) \text{Log}\left[c^{1/3}+d^{1/3} x\right]}{3 c^{2/3} d^{4/3}}-\frac{\text{Log}\left[c^{1/3}+d^{1/3} x\right]}{c^{1/3} d^{2/3}}+\frac{(c-d) \text{Log}\left[c^{2/3}-c^{1/3} d^{1/3} x+d^{2/3} x^2\right]}{6 c^{2/3} d^{4/3}}+\frac{\text{Log}\left[c^{2/3}-c^{1/3} d^{1/3} x+d^{2/3} x^2\right]}{2 c^{1/3} d^{2/3}}+\frac{\text{Log}\left[c+d x^3\right]}{d}$$

$$\frac{1+x}{d}+\frac{\text{RootSum}\left[c-d+3\,d\,\#1-3\,d\,\#1^2+d\,\#1^3\,\&,\ \frac{-c\,\text{Log}[1+x-\#1]+d\,\text{Log}[1+x-\#1]-3\,d\,\text{Log}[1+x-\#1]\,\#1+3\,d\,\text{Log}[1+x-\#1]\,\#1^2}{1-2\,\#1+\#1^2}\,\&\right]}{3\,d^2}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{(1+x)^4}{c+d\,x^3},\ x,\ 13,\ 0\right\}$$

$$\frac{4\,x}{d}+\frac{x^2}{2\,d}+\frac{(c-4\,d)\,\text{ArcTan}\left[\frac{c^{1/3}-2\,d^{1/3}\,x}{\sqrt{3}\,c^{1/3}}\right]}{\sqrt{3}\,c^{1/3}\,d^{5/3}}+\frac{(4\,c-d)\,\text{ArcTan}\left[\frac{c^{1/3}-2\,d^{1/3}\,x}{\sqrt{3}\,c^{1/3}}\right]}{\sqrt{3}\,c^{2/3}\,d^{4/3}}+\frac{(c-4\,d)\,\text{Log}\left[c^{1/3}+d^{1/3}\,x\right]}{3\,c^{1/3}\,d^{5/3}}-\frac{(4\,c-d)\,\text{Log}\left[c^{1/3}+d^{1/3}\,x\right]}{3\,c^{2/3}\,d^{4/3}}-\frac{(c-4\,d)\,\text{Log}\left[c^{2/3}-c^{1/3}\,d^{1/3}\,x+d^{2/3}\,x^2\right]}{6\,c^{1/3}\,d^{5/3}}+\frac{(4\,c-d)\,\text{Log}\left[c^{2/3}-c^{1/3}\,d^{1/3}\,x+d^{2/3}\,x^2\right]}{6\,c^{2/3}\,d^{4/3}}+\frac{2\,\text{Log}\left[c+d\,x^3\right]}{d}$$

$$\frac{3\,d\,\left(7+8\,x+x^2\right)+2\,\text{RootSum}\left[c-d+3\,d\,\#1-3\,d\,\#1^2+d\,\#1^3\,\&,\ \frac{-3\,c\,\text{Log}[1+x-\#1]+3\,d\,\text{Log}[1+x-\#1]-c\,\text{Log}[1+x-\#1]\,\#1-8\,d\,\text{Log}[1+x-\#1]\,\#1+6\,d\,\text{Log}[1+x-\#1]\,\#1^2}{1-2\,\#1+\#1^2}\,\&\right]}{6\,d^2}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^3}{a+b\,(c+d\,x)^3},\ x,\ 13,\ 0\right\}$$

$$\frac{c+d\,x}{b\,d^4}-\frac{\sqrt{3}\,c^2\,\text{ArcTan}\left[\frac{a^{1/3}-2\,b^{1/3}\,(c+d\,x)}{\sqrt{3}\,a^{1/3}}\right]}{a^{1/3}\,b^{2/3}\,d^4}+\frac{\left(a+b\,c^3\right)\,\text{ArcTan}\left[\frac{a^{1/3}-2\,b^{1/3}\,(c+d\,x)}{\sqrt{3}\,a^{1/3}}\right]}{\sqrt{3}\,a^{2/3}\,b^{4/3}\,d^4}-\frac{c^2\,\text{Log}\left[a^{1/3}+b^{1/3}\,(c+d\,x)\right]}{a^{1/3}\,b^{2/3}\,d^4}-\frac{\left(a+b\,c^3\right)\,\text{Log}\left[a^{1/3}+b^{1/3}\,(c+d\,x)\right]}{3\,a^{2/3}\,b^{4/3}\,d^4}+\frac{c^2\,\text{Log}\left[a^{2/3}-a^{1/3}\,b^{1/3}\,(c+d\,x)+b^{2/3}\,(c+d\,x)^2\right]}{2\,a^{1/3}\,b^{2/3}\,d^4}+\frac{\left(a+b\,c^3\right)\,\text{Log}\left[a^{2/3}-a^{1/3}\,b^{1/3}\,(c+d\,x)+b^{2/3}\,(c+d\,x)^2\right]}{6\,a^{2/3}\,b^{4/3}\,d^4}-\frac{c\,\text{Log}\left[a+b\,(c+d\,x)^3\right]}{b\,d^4}$$

$$-\frac{-3\,b\,d\,x+\text{RootSum}\left[a+b\,c^3+3\,b\,c^2\,d\,\#1+3\,b\,c\,d^2\,\#1^2+b\,d^3\,\#1^3\,\&,\ \frac{a\,\text{Log}[x-\#1]+b\,c^3\,\text{Log}[x-\#1]+3\,b\,c^2\,d\,\text{Log}[x-\#1]\,\#1+3\,b\,c\,d^2\,\text{Log}[x-\#1]\,\#1^2}{c^2+2\,c\,d\,\#1+d^2\,\#1^2}\,\&\right]}{3\,b^2\,d^4}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^2}{a+b\,(c+d\,x)^3},\ x,\ 13,\ 0\right\}$$

$$\frac{2\,c\,\text{ArcTan}\left[\frac{a^{1/3}-2\,b^{1/3}\,(c+d\,x)}{\sqrt{3}\,a^{1/3}}\right]}{\sqrt{3}\,a^{1/3}\,b^{2/3}\,d^3}-\frac{c^2\,\text{ArcTan}\left[\frac{a^{1/3}-2\,b^{1/3}\,(c+d\,x)}{\sqrt{3}\,a^{1/3}}\right]}{\sqrt{3}\,a^{2/3}\,b^{1/3}\,d^3}+\frac{2\,c\,\text{Log}\left[a^{1/3}+b^{1/3}\,(c+d\,x)\right]}{3\,a^{1/3}\,b^{2/3}\,d^3}+\frac{c^2\,\text{Log}\left[a^{1/3}+b^{1/3}\,(c+d\,x)\right]}{3\,a^{2/3}\,b^{1/3}\,d^3}-\frac{c\,\text{Log}\left[a^{2/3}-a^{1/3}\,b^{1/3}\,(c+d\,x)+b^{2/3}\,(c+d\,x)^2\right]}{3\,a^{1/3}\,b^{2/3}\,d^3}-\frac{c^2\,\text{Log}\left[a^{2/3}-a^{1/3}\,b^{1/3}\,(c+d\,x)+b^{2/3}\,(c+d\,x)^2\right]}{6\,a^{2/3}\,b^{1/3}\,d^3}+\frac{\text{Log}\left[a+b\,(c+d\,x)^3\right]}{3\,b\,d^3}$$

$$\frac{\text{RootSum}\left[a+b\,c^3+3\,b\,c^2\,d\,\#1+3\,b\,c\,d^2\,\#1^2+b\,d^3\,\#1^3\,\&,\ \frac{\text{Log}[x-\#1]\,\#1^2}{c^2+2\,c\,d\,\#1+d^2\,\#1^2}\,\&\right]}{3\,b\,d}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{x^2\,\left(a+b\,(c+d\,x)^3\right)},\ x,\ 15,\ 0\right\}$$

$$-\frac{1}{\left(a+b\,c^3\right)x}+\frac{b^{1/3}\left(a-2\,b\,c^3\right)d\,\text{ArcTan}\left[\frac{a^{1/3}-2\,b^{1/3}\,(c+d\,x)}{\sqrt{3}\;a^{1/3}}\right]}{\sqrt{3}\;a^{1/3}\left(a+b\,c^3\right)^2}+$$

$$\frac{b^{2/3}\,c\left(2\,a-b\,c^3\right)d\,\text{ArcTan}\left[\frac{a^{1/3}-2\,b^{1/3}\,(c+d\,x)}{\sqrt{3}\;a^{1/3}}\right]}{\sqrt{3}\;a^{2/3}\left(a+b\,c^3\right)^2}-\frac{3\,b\,c^2\,d\,\text{Log}[-d\,x]}{\left(a+b\,c^3\right)^2}+\frac{b^{1/3}\left(a-2\,b\,c^3\right)d\,\text{Log}\left[a^{1/3}+b^{1/3}\,(c+d\,x)\right]}{3\,a^{1/3}\left(a+b\,c^3\right)^2}-$$

$$\frac{b^{2/3}\,c\left(2\,a-b\,c^3\right)d\,\text{Log}\left[a^{1/3}+b^{1/3}\,(c+d\,x)\right]}{3\,a^{2/3}\left(a+b\,c^3\right)^2}-\frac{b^{1/3}\left(a-2\,b\,c^3\right)d\,\text{Log}\left[a^{2/3}-a^{1/3}\,b^{1/3}\,(c+d\,x)+b^{2/3}\,(c+d\,x)^2\right]}{6\,a^{1/3}\left(a+b\,c^3\right)^2}+$$

$$\frac{b^{2/3}\,c\left(2\,a-b\,c^3\right)d\,\text{Log}\left[a^{2/3}-a^{1/3}\,b^{1/3}\,(c+d\,x)+b^{2/3}\,(c+d\,x)^2\right]}{6\,a^{2/3}\left(a+b\,c^3\right)^2}+\frac{b\,c^2\,d\,\text{Log}\left[a+b\,(c+d\,x)^3\right]}{\left(a+b\,c^3\right)^2}$$

$$\frac{1}{3\left(a+b\,c^3\right)^2x}\left(-3\left(a+b\,c^3+3\,b\,c^2\,d\,x\,\text{Log}[x]\right)+d\,x\,\text{RootSum}\left[a+b\,c^3+3\,b\,c^2\,d\,\#1+3\,b\,c\,d^2\,\#1^2+b\,d^3\,\#1^3\,\&,\right.\right.$$

$$\left.\left.\frac{-3\,a\,c\,\text{Log}[x-\#1]+6\,b\,c^4\,\text{Log}[x-\#1]-a\,d\,\text{Log}[x-\#1]\,\#1+8\,b\,c^3\,d\,\text{Log}[x-\#1]\,\#1+3\,b\,c^2\,d^2\,\text{Log}[x-\#1]\,\#1^2}{c^2+2\,c\,d\,\#1+d^2\,\#1^2}\,\&\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{(c+d\,x)^3\left(a+b\,(c+d\,x)^3\right),\ x,\ 3,\ 0\right\}$

$$\frac{a\,(c+d\,x)^4}{4\,d}+\frac{b\,(c+d\,x)^7}{7\,d}$$

$$c^3\left(a+b\,c^3\right)x+\frac{3}{2}\,c^2\left(a+2\,b\,c^3\right)d\,x^2+c\left(a+5\,b\,c^3\right)d^2\,x^3+\frac{1}{4}\left(a+20\,b\,c^3\right)d^3\,x^4+3\,b\,c^2\,d^4\,x^5+b\,c\,d^5\,x^6+\frac{1}{7}\,b\,d^6\,x^7$$

Valid but unnecessarily complicated antiderivative:

$\left\{(c+d\,x)^3\left(a+b\,(c+d\,x)^3\right)^2,\ x,\ 3,\ 0\right\}$

$$\frac{a^2\,(c+d\,x)^4}{4\,d}+\frac{2\,a\,b\,(c+d\,x)^7}{7\,d}+\frac{b^2\,(c+d\,x)^{10}}{10\,d}$$

$$c^3\left(a+b\,c^3\right)^2x+\frac{3}{2}\,c^2\left(a^2+4\,a\,b\,c^3+3\,b^2\,c^6\right)d\,x^2+c\left(a^2+10\,a\,b\,c^3+12\,b^2\,c^6\right)d^2\,x^3+\frac{1}{4}\left(a^2+40\,a\,b\,c^3+84\,b^2\,c^6\right)d^3\,x^4+$$

$$\frac{6}{5}\,b\,c^2\left(5\,a+21\,b\,c^3\right)d^4\,x^5+b\,c\left(2\,a+21\,b\,c^3\right)d^5\,x^6+\frac{2}{7}\,b\left(a+42\,b\,c^3\right)d^6\,x^7+\frac{9}{2}\,b^2\,c^2\,d^7\,x^8+b^2\,c\,d^8\,x^9+\frac{1}{10}\,b^2\,d^9\,x^{10}$$

Valid but unnecessarily complicated antiderivative:

$\left\{(c+d\,x)^3\left(a+b\,(c+d\,x)^3\right)^3,\ x,\ 3,\ 0\right\}$

$$\frac{a^3\,(c+d\,x)^4}{4\,d}+\frac{3\,a^2\,b\,(c+d\,x)^7}{7\,d}+\frac{3\,a\,b^2\,(c+d\,x)^{10}}{10\,d}+\frac{b^3\,(c+d\,x)^{13}}{13\,d}$$

$$c^3\left(a+b\,c^3\right)^3x+\frac{3}{2}\,c^2\left(a+b\,c^3\right)^2\left(a+4\,b\,c^3\right)d\,x^2+c\left(a^3+15\,a^2\,b\,c^3+36\,a\,b^2\,c^6+22\,b^3\,c^9\right)d^2\,x^3+$$

$$\frac{1}{4}\left(a^3+60\,a^2\,b\,c^3+252\,a\,b^2\,c^6+220\,b^3\,c^9\right)d^3\,x^4+\frac{9}{5}\,b\,c^2\left(5\,a^2+42\,a\,b\,c^3+55\,b^2\,c^6\right)d^4\,x^5+$$

$$3\,b\,c\left(a^2+21\,a\,b\,c^3+44\,b^2\,c^6\right)d^5\,x^6+\frac{3}{7}\,b\left(a^2+84\,a\,b\,c^3+308\,b^2\,c^6\right)d^6\,x^7+\frac{9}{2}\,b^2\,c^2\left(3\,a+22\,b\,c^3\right)d^7\,x^8+$$

$$b^2\,c\left(3\,a+55\,b\,c^3\right)d^8\,x^9+\frac{1}{10}\,b^2\left(3\,a+220\,b\,c^3\right)d^9\,x^{10}+6\,b^3\,c^2\,d^{10}\,x^{11}+b^3\,c\,d^{11}\,x^{12}+\frac{1}{13}\,b^3\,d^{12}\,x^{13}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{x^3\,\left(a-b\,x^4\right)},\,x,\,5,\,0\right\}$$

$$-\frac{1}{2\,a\,x^2}+\frac{\sqrt{b}\,\text{ArcTanh}\left[\frac{\sqrt{b}\,x^2}{\sqrt{a}}\right]}{2\,a^{3/2}}$$

$$\frac{-2\,\sqrt{a}-\sqrt{b}\,x^2\,\text{Log}\left[-a^{1/4}+b^{1/4}\,x\right]-\sqrt{b}\,x^2\,\text{Log}\left[a^{1/4}+b^{1/4}\,x\right]+\sqrt{b}\,x^2\,\text{Log}\left[\sqrt{a}+\sqrt{b}\,x^2\right]}{4\,a^{3/2}\,x^2}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{1+a+(-1+a)\,x^4},\,x,\,3,\,0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{(1-a)^{1/4}\,x}{(1+a)^{1/4}}\right]}{2\,(1-a)^{1/4}\,(1+a)^{3/4}}+\frac{\text{ArcTanh}\left[\frac{(1-a)^{1/4}\,x}{(1+a)^{1/4}}\right]}{2\,(1-a)^{1/4}\,(1+a)^{3/4}}$$

$$\frac{1}{4\,\sqrt{2}\,(-1+a)^{1/4}\,(1+a)^{3/4}}\left(-2\,\text{ArcTan}\left[1-\sqrt{2}\,\left(\frac{-1+a}{1+a}\right)^{1/4}\,x\right]+2\,\text{ArcTan}\left[1+\sqrt{2}\,\left(\frac{-1+a}{1+a}\right)^{1/4}\,x\right]-\right.$$
$$\left.\text{Log}\left[\sqrt{1+a}-\sqrt{2}\,(-1+a)^{1/4}\,(1+a)^{1/4}\,x+\sqrt{-1+a}\,x^2\right]+\text{Log}\left[\sqrt{1+a}+\sqrt{2}\,(-1+a)^{1/4}\,(1+a)^{1/4}\,x+\sqrt{-1+a}\,x^2\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^3\,\left(a+b\,x^4\right)^3,\,x,\,2,\,0\right\}$$

$$\frac{\left(a+b\,x^4\right)^4}{16\,b}$$

$$\frac{1}{16}\,x^4\,\left(4\,a^3+6\,a^2\,b\,x^4+4\,a\,b^2\,x^8+b^3\,x^{12}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1+x^2}{1-x^4},\,x,\,2,\,0\right\}$$

$$\text{ArcTanh}[x]$$

$$\frac{1}{2}\,(\text{Log}[-1-x]-\text{Log}[-1+x])$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^3}{a+b\,(c+d\,x)^4},\,x,\,12,\,0\right\}$$

$$\frac{3\,c^2\,\text{ArcTan}\left[\frac{\sqrt{b}\,(c+d\,x)^2}{\sqrt{a}}\right]}{2\,\sqrt{a}\,\sqrt{b}\,d^4}+\frac{c\left(3\,\sqrt{a}+\sqrt{b}\,c^2\right)\text{ArcTan}\left[\frac{a^{1/4}-\sqrt{2}\,b^{1/4}\,(c+d\,x)}{a^{1/4}}\right]}{2\,\sqrt{2}\,a^{3/4}\,b^{3/4}\,d^4}-$$

$$\frac{c\left(3\,\sqrt{a}+\sqrt{b}\,c^2\right)\text{ArcTan}\left[\frac{a^{1/4}+\sqrt{2}\,b^{1/4}\,(c+d\,x)}{a^{1/4}}\right]}{2\,\sqrt{2}\,a^{3/4}\,b^{3/4}\,d^4}-\frac{c\left(3\,\sqrt{a}-\sqrt{b}\,c^2\right)\text{Log}\left[\sqrt{a}-\sqrt{2}\,a^{1/4}\,b^{1/4}\,(c+d\,x)+\sqrt{b}\,(c+d\,x)^2\right]}{4\,\sqrt{2}\,a^{3/4}\,b^{3/4}\,d^4}+$$

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

$$\frac{\text{RootSum}\left[a+b\,c^4+4\,b\,c^3\,d\,\#1+6\,b\,c^2\,d^2\,\#1^2+4\,b\,c\,d^3\,\#1^3+b\,d^4\,\#1^4\,\&,\ \frac{\text{Log}[x-\#1]\,\#1^3}{c^3+3\,c^2\,d\,\#1+3\,c\,d^2\,\#1^2+d^3\,\#1^3}\,\&\right]}{4\,b\,d}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^2}{a+b\,(c+d\,x)^4},\ x,\ 10,\ 0\right\}$$

$$-\frac{c\,\text{ArcTan}\left[\frac{\sqrt{b}\,(c+d\,x)^2}{\sqrt{a}}\right]}{\sqrt{a}\,\sqrt{b}\,d^3}-\frac{\left(\sqrt{a}+\sqrt{b}\,c^2\right)\text{ArcTan}\left[\frac{a^{1/4}-\sqrt{2}\,b^{1/4}\,(c+d\,x)}{a^{1/4}}\right]}{2\,\sqrt{2}\,a^{3/4}\,b^{3/4}\,d^3}+$$

$$\frac{\left(\sqrt{a}+\sqrt{b}\,c^2\right)\text{ArcTan}\left[\frac{a^{1/4}+\sqrt{2}\,b^{1/4}\,(c+d\,x)}{a^{1/4}}\right]}{2\,\sqrt{2}\,a^{3/4}\,b^{3/4}\,d^3}+\frac{\left(\sqrt{a}-\sqrt{b}\,c^2\right)\text{Log}\left[\sqrt{a}-\sqrt{2}\,a^{1/4}\,b^{1/4}\,(c+d\,x)+\sqrt{b}\,(c+d\,x)^2\right]}{4\,\sqrt{2}\,a^{3/4}\,b^{3/4}\,d^3}-$$

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

$$\frac{\text{RootSum}\left[a+b\,c^4+4\,b\,c^3\,d\,\#1+6\,b\,c^2\,d^2\,\#1^2+4\,b\,c\,d^3\,\#1^3+b\,d^4\,\#1^4\,\&,\ \frac{\text{Log}[x-\#1]\,\#1^2}{c^3+3\,c^2\,d\,\#1+3\,c\,d^2\,\#1^2+d^3\,\#1^3}\,\&\right]}{4\,b\,d}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x}{a+b\,(c+d\,x)^4},\ x,\ 8,\ 0\right\}$$

$$\frac{c\,\text{ArcTan}\left[\frac{b^{1/4}\,(c+d\,x)}{(-a)^{1/4}}\right]}{2\,(-a)^{3/4}\,b^{1/4}\,d^2}+\frac{\text{ArcTan}\left[\frac{\sqrt{b}\,(c+d\,x)^2}{\sqrt{a}}\right]}{2\,\sqrt{a}\,\sqrt{b}\,d^2}+\frac{c\,\text{ArcTanh}\left[\frac{b^{1/4}\,(c+d\,x)}{(-a)^{1/4}}\right]}{2\,(-a)^{3/4}\,b^{1/4}\,d^2}$$

$$\frac{1}{8\,a^{3/4}\,\sqrt{b}\,d^2}$$

$$\left(\left(4\,a^{1/4}-2\,\sqrt{2}\,b^{1/4}\,c\right)\text{ArcTan}\left[\frac{-\sqrt{2}\,a^{1/4}+2\,b^{1/4}\,(c+d\,x)}{\sqrt{2}\,a^{1/4}}\right]-2\left(2\,a^{1/4}+\sqrt{2}\,b^{1/4}\,c\right)\text{ArcTan}\left[\frac{\sqrt{2}\,a^{1/4}+2\,b^{1/4}\,(c+d\,x)}{\sqrt{2}\,a^{1/4}}\right]+\right.$$

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{a+b\,(c+d\,x)^4},\ x,\ 4,\ 0\right\}$$

$$-\frac{\text{ArcTan}\left[\frac{b^{1/4}\,(c+d\,x)}{(-a)^{1/4}}\right]}{2\,(-a)^{3/4}\,b^{1/4}\,d}-\frac{\text{ArcTanh}\left[\frac{b^{1/4}\,(c+d\,x)}{(-a)^{1/4}}\right]}{2\,(-a)^{3/4}\,b^{1/4}\,d}$$

$$\frac{1}{4\sqrt{2}\,a^{3/4}\,b^{1/4}\,d}\left(2\,\text{ArcTan}\left[\frac{-\sqrt{2}\,a^{1/4}+2\,b^{1/4}\,(c+d\,x)}{\sqrt{2}\,a^{1/4}}\right]+2\,\text{ArcTan}\left[\frac{\sqrt{2}\,a^{1/4}+2\,b^{1/4}\,(c+d\,x)}{\sqrt{2}\,a^{1/4}}\right]-\text{Log}\left[\sqrt{a}-\sqrt{2}\,a^{1/4}\,b^{1/4}\,(c+d\,x)+\sqrt{b}\,(c+d\,x)^2\right]+\text{Log}\left[\sqrt{a}+\sqrt{2}\,a^{1/4}\,b^{1/4}\,(c+d\,x)+\sqrt{b}\,(c+d\,x)^2\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{x^2\,\left(a+b\,(c+d\,x)^4\right)},\ x,\ 15,\ 0\right\}$$

$$-\frac{1}{\left(a+b\,c^4\right)\,x}-\frac{b^{1/4}\,\left(a-3\,b\,c^4\right)\,d\,\text{ArcTan}\left[\frac{b^{1/4}\,(c+d\,x)}{(-a)^{1/4}}\right]}{2\,(-a)^{1/4}\,\left(a+b\,c^4\right)^2}+\frac{b^{3/4}\,c^2\,\left(3\,a-b\,c^4\right)\,d\,\text{ArcTan}\left[\frac{b^{1/4}\,(c+d\,x)}{(-a)^{1/4}}\right]}{2\,(-a)^{3/4}\,\left(a+b\,c^4\right)^2}-\frac{\sqrt{b}\,c\,\left(a-b\,c^4\right)\,d\,\text{ArcTan}\left[\frac{\sqrt{b}\,(c+d\,x)^2}{\sqrt{a}}\right]}{\sqrt{a}\,\left(a+b\,c^4\right)^2}+\frac{b^{1/4}\,\left(a-3\,b\,c^4\right)\,d\,\text{ArcTanh}\left[\frac{b^{1/4}\,(c+d\,x)}{(-a)^{1/4}}\right]}{2\,(-a)^{1/4}\,\left(a+b\,c^4\right)^2}+\frac{b^{3/4}\,c^2\,\left(3\,a-b\,c^4\right)\,d\,\text{ArcTanh}\left[\frac{b^{1/4}\,(c+d\,x)}{(-a)^{1/4}}\right]}{2\,(-a)^{3/4}\,\left(a+b\,c^4\right)^2}-\frac{4\,b\,c^3\,d\,\text{Log}[-d\,x]}{\left(a+b\,c^4\right)^2}+\frac{b\,c^3\,d\,\text{Log}\left[a+b\,(c+d\,x)^4\right]}{\left(a+b\,c^4\right)^2}$$

$$\frac{1}{4\,\left(a+b\,c^4\right)^2\,x}\left(-4\,\left(a+b\,c^4+4\,b\,c^3\,d\,x\,\text{Log}[x]\right)+d\,x\,\text{RootSum}\left[a+b\,c^4+4\,b\,c^3\,d\,\#1+6\,b\,c^2\,d^2\,\#1^2+4\,b\,c\,d^3\,\#1^3+b\,d^4\,\#1^4\,\&,\ \left(-6\,a\,c^2\,\text{Log}[x-\#1]+10\,b\,c^6\,\text{Log}[x-\#1]-4\,a\,c\,d\,\text{Log}[x-\#1]\,\#1+20\,b\,c^5\,d\,\text{Log}[x-\#1]\,\#1-a\,d^2\,\text{Log}[x-\#1]\,\#1^2+15\,b\,c^4\,d^2\,\text{Log}[x-\#1]\,\#1^2+4\,b\,c^3\,d^3\,\text{Log}[x-\#1]\,\#1^3\right)\Big/\left(c^3+3\,c^2\,d\,\#1+3\,c\,d^2\,\#1^2+d^3\,\#1^3\right)\,\&\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(c+d\,x)^3\,\left(a+b\,(c+d\,x)^4\right)^3,\ x,\ 2,\ 0\right\}$$

$$\frac{\left(a+b\,(c+d\,x)^4\right)^4}{16\,b\,d}$$

$$\frac{1}{16}\,x\,\left(4\,c^3+6\,c^2\,d\,x+4\,c\,d^2\,x^2+d^3\,x^3\right)\,\left(4\,a^3+6\,a^2\,b\,\left(2\,c^4+4\,c^3\,d\,x+6\,c^2\,d^2\,x^2+4\,c\,d^3\,x^3+d^4\,x^4\right)+4\,a\,b^2\,\left(3\,c^8+12\,c^7\,d\,x+34\,c^6\,d^2\,x^2+60\,c^5\,d^3\,x^3+71\,c^4\,d^4\,x^4+56\,c^3\,d^5\,x^5+28\,c^2\,d^6\,x^6+8\,c\,d^7\,x^7+d^8\,x^8\right)+b^3\,\left(4\,c^{12}+24\,c^{11}\,d\,x+100\,c^{10}\,d^2\,x^2+280\,c^9\,d^3\,x^3+566\,c^8\,d^4\,x^4+848\,c^7\,d^5\,x^5+952\,c^6\,d^6\,x^6+800\,c^5\,d^7\,x^7+496\,c^4\,d^8\,x^8+220\,c^3\,d^9\,x^9+66\,c^2\,d^{10}\,x^{10}+12\,c\,d^{11}\,x^{11}+d^{12}\,x^{12}\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(c+d\,x)^3\,\left(a+b\,(c+d\,x)^4\right)^2,\ x,\ 2,\ 0\right\}$$

$$\frac{\left(a+b\,(c+d\,x)^4\right)^3}{12\,b\,d}$$

$$\frac{1}{12}\,x\,\left(4\,c^3+6\,c^2\,d\,x+4\,c\,d^2\,x^2+d^3\,x^3\right)\,\left(3\,a^2+3\,a\,b\,\left(2\,c^4+4\,c^3\,d\,x+6\,c^2\,d^2\,x^2+4\,c\,d^3\,x^3+d^4\,x^4\right)+b^2\,\left(3\,c^8+12\,c^7\,d\,x+34\,c^6\,d^2\,x^2+60\,c^5\,d^3\,x^3+71\,c^4\,d^4\,x^4+56\,c^3\,d^5\,x^5+28\,c^2\,d^6\,x^6+8\,c\,d^7\,x^7+d^8\,x^8\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(c+d\,x)^3\,\left(a+b\,(c+d\,x)^4\right),\ x,\ 2,\ 0\right\}$$

$$\frac{a\,(c+d\,x)^4}{4\,d}+\frac{b\,(c+d\,x)^8}{8\,d}$$

$$\frac{1}{8}\,x\,\left(4\,c^3+6\,c^2\,d\,x+4\,c\,d^2\,x^2+d^3\,x^3\right)\,\left(2\,a+b\,\left(2\,c^4+4\,c^3\,d\,x+6\,c^2\,d^2\,x^2+4\,c\,d^3\,x^3+d^4\,x^4\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^2}{1-x^6},\,x,\,2,\,0\right\}$$

$$\frac{\text{ArcTanh}\left[x^3\right]}{3}$$

$$\frac{1}{6}\,\left(\text{Log}\left[-1-x^3\right]-\text{Log}\left[-1+x^3\right]\right)$$

Incorrect antiderivative:

$$\left\{\frac{1}{1-x^7},\,x,\,9,\,0\right\}$$

$$\frac{2}{7}\,\text{ArcTan}\left[\text{Sec}\left[\frac{\pi}{14}\right]\,\left(x+\text{Sin}\left[\frac{\pi}{14}\right]\right)\right]\,\text{Cos}\left[\frac{\pi}{14}\right]+\frac{2}{7}\,\text{ArcTan}\left[\text{Sec}\left[\frac{3\,\pi}{14}\right]\,\left(x-\text{Sin}\left[\frac{3\,\pi}{14}\right]\right)\right]\,\text{Cos}\left[\frac{3\,\pi}{14}\right]-$$
$$\frac{1}{7}\,\text{Log}[1-x]+\frac{1}{7}\,\text{Cos}\left[\frac{\pi}{7}\right]\,\text{Log}\left[1+x^2+2\,x\,\text{Cos}\left[\frac{\pi}{7}\right]\right]+\frac{1}{7}\,\text{Log}\left[1+x^2+2\,x\,\text{Sin}\left[\frac{\pi}{14}\right]\right]\,\text{Sin}\left[\frac{\pi}{14}\right]+$$
$$\frac{2}{7}\,\text{ArcTan}\left[\left(x+\text{Cos}\left[\frac{\pi}{7}\right]\right)\,\text{Csc}\left[\frac{\pi}{7}\right]\right]\,\text{Sin}\left[\frac{\pi}{7}\right]-\frac{1}{7}\,\text{Log}\left[1+x^2-2\,x\,\text{Sin}\left[\frac{3\,\pi}{14}\right]\right]\,\text{Sin}\left[\frac{3\,\pi}{14}\right]$$

$$\frac{1}{7}\,\left(2\,\text{ArcTan}\left[x\,\text{Sec}\left[\frac{\pi}{14}\right]+\text{Tan}\left[\frac{\pi}{14}\right]\right]\,\text{Cos}\left[\frac{\pi}{14}\right]+\right.$$
$$2\,\text{ArcTan}\left[\text{Sec}\left[\frac{3\,\pi}{14}\right]\,\left(x-\text{Sin}\left[\frac{3\,\pi}{14}\right]\right)\right]\,\text{Cos}\left[\frac{3\,\pi}{14}\right]-\text{Log}[-1+x]+\text{Cos}\left[\frac{\pi}{7}\right]\,\text{Log}\left[1+x^2+2\,x\,\text{Cos}\left[\frac{\pi}{7}\right]\right]+$$
$$\left.\text{Log}\left[1+x^2+2\,x\,\text{Sin}\left[\frac{\pi}{14}\right]\right]\,\text{Sin}\left[\frac{\pi}{14}\right]+2\,\text{ArcTan}\left[\text{Cot}\left[\frac{\pi}{7}\right]+x\,\text{Csc}\left[\frac{\pi}{7}\right]\right]\,\text{Sin}\left[\frac{\pi}{7}\right]-\text{Log}\left[1+x^2-2\,x\,\text{Sin}\left[\frac{3\,\pi}{14}\right]\right]\,\text{Sin}\left[\frac{3\,\pi}{14}\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{a+b\,x^8},\,x,\,7,\,0\right\}$$

$$\frac{\left(-\sqrt{-a}\right)^{1/4}\,\text{ArcTan}\left[\frac{b^{1/8}\,x}{\left(-\sqrt{-a}\right)^{1/4}}\right]}{4\,a\,b^{1/8}}-\frac{\text{ArcTan}\left[\frac{b^{1/8}\,x}{(-a)^{1/8}}\right]}{4\,(-a)^{7/8}\,b^{1/8}}+\frac{\left(-\sqrt{-a}\right)^{1/4}\,\text{ArcTanh}\left[\frac{b^{1/8}\,x}{\left(-\sqrt{-a}\right)^{1/4}}\right]}{4\,a\,b^{1/8}}-\frac{\text{ArcTanh}\left[\frac{b^{1/8}\,x}{(-a)^{1/8}}\right]}{4\,(-a)^{7/8}\,b^{1/8}}$$

$$\frac{1}{8\,a^{7/8}\,b^{1/8}}\,\left(2\,\text{ArcTan}\left[\frac{b^{1/8}\,x\,\text{Sec}\left[\frac{\pi}{8}\right]}{a^{1/8}}-\text{Tan}\left[\frac{\pi}{8}\right]\right]\,\text{Cos}\left[\frac{\pi}{8}\right]+2\,\text{ArcTan}\left[\frac{b^{1/8}\,x\,\text{Sec}\left[\frac{\pi}{8}\right]}{a^{1/8}}+\text{Tan}\left[\frac{\pi}{8}\right]\right]\,\text{Cos}\left[\frac{\pi}{8}\right]-\right.$$
$$\text{Cos}\left[\frac{\pi}{8}\right]\,\text{Log}\left[a^{1/4}+b^{1/4}\,x^2-2\,a^{1/8}\,b^{1/8}\,x\,\text{Cos}\left[\frac{\pi}{8}\right]\right]+\text{Cos}\left[\frac{\pi}{8}\right]\,\text{Log}\left[a^{1/4}+b^{1/4}\,x^2+2\,a^{1/8}\,b^{1/8}\,x\,\text{Cos}\left[\frac{\pi}{8}\right]\right]-$$
$$2\,\text{ArcTan}\left[\text{Cot}\left[\frac{\pi}{8}\right]-\frac{b^{1/8}\,x\,\text{Csc}\left[\frac{\pi}{8}\right]}{a^{1/8}}\right]\,\text{Sin}\left[\frac{\pi}{8}\right]+2\,\text{ArcTan}\left[\text{Cot}\left[\frac{\pi}{8}\right]+\frac{b^{1/8}\,x\,\text{Csc}\left[\frac{\pi}{8}\right]}{a^{1/8}}\right]\,\text{Sin}\left[\frac{\pi}{8}\right]-$$
$$\left.\text{Log}\left[a^{1/4}+b^{1/4}\,x^2-2\,a^{1/8}\,b^{1/8}\,x\,\text{Sin}\left[\frac{\pi}{8}\right]\right]\,\text{Sin}\left[\frac{\pi}{8}\right]+\text{Log}\left[a^{1/4}+b^{1/4}\,x^2+2\,a^{1/8}\,b^{1/8}\,x\,\text{Sin}\left[\frac{\pi}{8}\right]\right]\,\text{Sin}\left[\frac{\pi}{8}\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{\left(a+\frac{b}{x^2}\right)^3}{x^3},\ x,\ 2,\ 0\right\}$$

$$-\frac{\left(a+\frac{b}{x^2}\right)^4}{8\,b}$$

$$-\frac{b^3+4\,a\,b^2\,x^2+6\,a^2\,b\,x^4+4\,a^3\,x^6}{8\,x^8}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{a+\frac{b}{x^4}},\ x,\ 5,\ 0\right\}$$

$$\frac{x}{a}-\frac{(-b)^{1/4}\,\mathrm{ArcTan}\left[\frac{a^{1/4}\,x}{(-b)^{1/4}}\right]}{2\,a^{5/4}}-\frac{(-b)^{1/4}\,\mathrm{ArcTanh}\left[\frac{a^{1/4}\,x}{(-b)^{1/4}}\right]}{2\,a^{5/4}}$$

$$\frac{1}{8\,a^{5/4}}\left(8\,a^{1/4}\,x+2\,\sqrt{2}\,b^{1/4}\,\mathrm{ArcTan}\left[1-\frac{\sqrt{2}\,a^{1/4}\,x}{b^{1/4}}\right]-2\,\sqrt{2}\,b^{1/4}\,\mathrm{ArcTan}\left[1+\frac{\sqrt{2}\,a^{1/4}\,x}{b^{1/4}}\right]+\right.$$
$$\left.\sqrt{2}\,b^{1/4}\,\mathrm{Log}\left[\sqrt{b}-\sqrt{2}\,a^{1/4}\,b^{1/4}\,x+\sqrt{a}\,x^2\right]-\sqrt{2}\,b^{1/4}\,\mathrm{Log}\left[\sqrt{b}+\sqrt{2}\,a^{1/4}\,b^{1/4}\,x+\sqrt{a}\,x^2\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^{-1-9\,n}\,(a+b\,x^n)^8,\ x,\ 1,\ 0\right\}$$

$$-\frac{x^{-9\,n}\,(a+b\,x^n)^9}{9\,a\,n}$$

$$-\frac{x^{-9\,n}\left(a^8+9\,a^7\,b\,x^n+36\,a^6\,b^2\,x^{2\,n}+84\,a^5\,b^3\,x^{3\,n}+126\,a^4\,b^4\,x^{4\,n}+126\,a^3\,b^5\,x^{5\,n}+84\,a^2\,b^6\,x^{6\,n}+36\,a\,b^7\,x^{7\,n}+9\,b^8\,x^{8\,n}\right)}{9\,n}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{\left(a+b\,x^3\right)^8}{x^{28}},\ x,\ 1,\ 0\right\}$$

$$-\frac{\left(a+b\,x^3\right)^9}{27\,a\,x^{27}}$$

$$-\frac{a^8+9\,a^7\,b\,x^3+36\,a^6\,b^2\,x^6+84\,a^5\,b^3\,x^9+126\,a^4\,b^4\,x^{12}+126\,a^3\,b^5\,x^{15}+84\,a^2\,b^6\,x^{18}+36\,a\,b^7\,x^{21}+9\,b^8\,x^{24}}{27\,x^{27}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{1-(c+d\,x)^2},\ x,\ 2,\ 0\right\}$$

$$\frac{\mathrm{ArcTanh}[c+d\,x]}{d}$$

$$\frac{\mathrm{Log}[-1-c-d\,x]-\mathrm{Log}[-1+c+d\,x]}{2\,d}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{1-(1+x)^2}, x, 4, 0\right\}$$

ArcTanh[1 + x]

$$\frac{1}{2}\,(-\text{Log}[x] + \text{Log}[2+x])$$

Rational function problems involving trinomials

Valid but unnecessarily complicated antiderivative:

$$\left\{x^{-1+n} (a + b x^n)^{16}, x, 2, 0\right\}$$

$$\frac{(a + b x^n)^{17}}{17 b n}$$

$$\frac{1}{17 n} x^n \left(17 a^{16} + 136 a^{15} b x^n + 680 a^{14} b^2 x^{2 n} + 2380 a^{13} b^3 x^{3 n} + 6188 a^{12} b^4 x^{4 n} + 12376 a^{11} b^5 x^{5 n} + 19448 a^{10} b^6 x^{6 n} + 24310 a^9 b^7 x^{7 n} + 24310 a^8 b^8 x^{8 n} + 19448 a^7 b^9 x^{9 n} + 12376 a^6 b^{10} x^{10 n} + 6188 a^5 b^{11} x^{11 n} + 2380 a^4 b^{12} x^{12 n} + 680 a^3 b^{13} x^{13 n} + 136 a^2 b^{14} x^{14 n} + 17 a b^{15} x^{15 n} + b^{16} x^{16 n}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^2 \left(a + b x^3\right)^{16}, x, 2, 0\right\}$$

$$\frac{\left(a + b x^3\right)^{17}}{51 b}$$

$$\frac{1}{51} x^3 \left(17 a^{16} + 136 a^{15} b x^3 + 680 a^{14} b^2 x^6 + 2380 a^{13} b^3 x^9 + 6188 a^{12} b^4 x^{12} + 12376 a^{11} b^5 x^{15} + 19448 a^{10} b^6 x^{18} + 24310 a^9 b^7 x^{21} + 24310 a^8 b^8 x^{24} + 19448 a^7 b^9 x^{27} + 12376 a^6 b^{10} x^{30} + 6188 a^5 b^{11} x^{33} + 2380 a^4 b^{12} x^{36} + 680 a^3 b^{13} x^{39} + 136 a^2 b^{14} x^{42} + 17 a b^{15} x^{45} + b^{16} x^{48}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(b + 2 c x) \left(a + b x + c x^2\right)^{12}, x, 1, 0\right\}$$

$$\frac{1}{13} \left(a + b x + c x^2\right)^{13}$$

$$a^{12} x (b + c x) + 6 a^{11} x^2 (b + c x)^2 + 22 a^{10} x^3 (b + c x)^3 + 55 a^9 x^4 (b + c x)^4 + 99 a^8 x^5 (b + c x)^5 + 132 a^7 x^6 (b + c x)^6 + 132 a^6 x^7 (b + c x)^7 + 99 a^5 x^8 (b + c x)^8 + 55 a^4 x^9 (b + c x)^9 + 22 a^3 x^{10} (b + c x)^{10} + 6 a^2 x^{11} (b + c x)^{11} + a x^{12} (b + c x)^{12} + \frac{1}{13} x^{13} (b + c x)^{13}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(b + 2 c x + 3 d x^2\right) \left(a + b x + c x^2 + d x^3\right)^7, x, 2, 0\right\}$$

$$\frac{1}{8} \left(a + b x + c x^2 + d x^3\right)^8$$

$$\frac{1}{8} x (b + x (c + d x)) \left(8 a^7 + 28 a^6 x (b + x (c + d x)) + 56 a^5 x^2 (b + x (c + d x))^2 + 70 a^4 x^3 (b + x (c + d x))^3 + 56 a^3 x^4 (b + x (c + d x))^4 + 28 a^2 x^5 (b + x (c + d x))^5 + 8 a x^6 (b + x (c + d x))^6 + x^7 (b + x (c + d x))^7\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(b + 3 d x^2\right) \left(a + b x + d x^3\right)^7, x, 2, 0\right\}$$

$$\frac{1}{8} \left(a + b x + d x^3\right)^8$$

$$\frac{1}{8} x \left(b + d x^2\right) \left(8 a^7 + 28 a^6 x \left(b + d x^2\right) + 56 a^5 x^2 \left(b + d x^2\right)^2 + 70 a^4 x^3 \left(b + d x^2\right)^3 + 56 a^3 x^4 \left(b + d x^2\right)^4 + 28 a^2 x^5 \left(b + d x^2\right)^5 + 8 a x^6 \left(b + d x^2\right)^6 + x^7 \left(b + d x^2\right)^7\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(2\,c\,x+3\,d\,x^2\right)\,\left(a+c\,x^2+d\,x^3\right)^7,\,x,\,2,\,0\right\}$$

$$\frac{1}{8}\,\left(a+c\,x^2+d\,x^3\right)^8$$

$$\frac{1}{8}\,x^2\,(c+d\,x)\,\left(8\,a^7+28\,a^6\,x^2\,(c+d\,x)+56\,a^5\,x^4\,(c+d\,x)^2+70\,a^4\,x^6\,(c+d\,x)^3+56\,a^3\,x^8\,(c+d\,x)^4+28\,a^2\,x^{10}\,(c+d\,x)^5+8\,a\,x^{12}\,(c+d\,x)^6+x^{14}\,(c+d\,x)^7\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x\,(2\,c+3\,d\,x)\,\left(a+c\,x^2+d\,x^3\right)^7,\,x,\,2,\,0\right\}$$

$$\frac{1}{8}\,\left(a+c\,x^2+d\,x^3\right)^8$$

$$\frac{1}{8}\,x^2\,(c+d\,x)\,\left(8\,a^7+28\,a^6\,x^2\,(c+d\,x)+56\,a^5\,x^4\,(c+d\,x)^2+70\,a^4\,x^6\,(c+d\,x)^3+56\,a^3\,x^8\,(c+d\,x)^4+28\,a^2\,x^{10}\,(c+d\,x)^5+8\,a\,x^{12}\,(c+d\,x)^6+x^{14}\,(c+d\,x)^7\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^{12}\,\left(a+b\,x^{13}\right)^{12},\,x,\,2,\,0\right\}$$

$$\frac{\left(a+b\,x^{13}\right)^{13}}{169\,b}$$

$$\frac{1}{169}\,x^{13}\,\left(13\,a^{12}+78\,a^{11}\,b\,x^{13}+286\,a^{10}\,b^2\,x^{26}+715\,a^9\,b^3\,x^{39}+1287\,a^8\,b^4\,x^{52}+1716\,a^7\,b^5\,x^{65}+1716\,a^6\,b^6\,x^{78}+1287\,a^5\,b^7\,x^{91}+715\,a^4\,b^8\,x^{104}+286\,a^3\,b^9\,x^{117}+78\,a^2\,b^{10}\,x^{130}+13\,a\,b^{11}\,x^{143}+b^{12}\,x^{156}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^{24}\,\left(a+b\,x^{25}\right)^{12},\,x,\,2,\,0\right\}$$

$$\frac{\left(a+b\,x^{25}\right)^{13}}{325\,b}$$

$$\frac{1}{325}\,x^{25}\,\left(13\,a^{12}+78\,a^{11}\,b\,x^{25}+286\,a^{10}\,b^2\,x^{50}+715\,a^9\,b^3\,x^{75}+1287\,a^8\,b^4\,x^{100}+1716\,a^7\,b^5\,x^{125}+1716\,a^6\,b^6\,x^{150}+1287\,a^5\,b^7\,x^{175}+715\,a^4\,b^8\,x^{200}+286\,a^3\,b^9\,x^{225}+78\,a^2\,b^{10}\,x^{250}+13\,a\,b^{11}\,x^{275}+b^{12}\,x^{300}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^{36}\,\left(a+b\,x^{37}\right)^{12},\,x,\,2,\,0\right\}$$

$$\frac{\left(a+b\,x^{37}\right)^{13}}{481\,b}$$

$$\frac{1}{481}\,x^{37}\,\left(13\,a^{12}+78\,a^{11}\,b\,x^{37}+286\,a^{10}\,b^2\,x^{74}+715\,a^9\,b^3\,x^{111}+1287\,a^8\,b^4\,x^{148}+1716\,a^7\,b^5\,x^{185}+1716\,a^6\,b^6\,x^{222}+1287\,a^5\,b^7\,x^{259}+715\,a^4\,b^8\,x^{296}+286\,a^3\,b^9\,x^{333}+78\,a^2\,b^{10}\,x^{370}+13\,a\,b^{11}\,x^{407}+b^{12}\,x^{444}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{12\,m}\left(a+b\,x^{1+12\,m}\right)^{12},\ x,\ 2,\ 0\right\}$

$$\frac{\left(a+b\,x^{1+12\,m}\right)^{13}}{13\,b\,(1+12\,m)}$$

$$\frac{1}{13+156\,m}\,x^{1+12\,m}\left(13\,a^{12}+78\,a^{11}\,b\,x^{1+12\,m}+286\,a^{10}\,b^{2}\,x^{2+24\,m}+715\,a^{9}\,b^{3}\,x^{3+36\,m}+1287\,a^{8}\,b^{4}\,x^{4+48\,m}+1716\,a^{7}\,b^{5}\,x^{5+60\,m}+1716\,a^{6}\,b^{6}\,x^{6+72\,m}+1287\,a^{5}\,b^{7}\,x^{7+84\,m}+715\,a^{4}\,b^{8}\,x^{8+96\,m}+286\,a^{3}\,b^{9}\,x^{9+108\,m}+78\,a^{2}\,b^{10}\,x^{10+120\,m}+13\,a\,b^{11}\,x^{11+132\,m}+b^{12}\,x^{12+144\,m}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{\left(a\,x+b\,x^{14}\right)^{12},\ x,\ 3,\ 0\right\}$

$$\frac{\left(a+b\,x^{13}\right)^{13}}{169\,b}$$

$$\frac{1}{169}\,x^{13}\left(13\,a^{12}+78\,a^{11}\,b\,x^{13}+286\,a^{10}\,b^{2}\,x^{26}+715\,a^{9}\,b^{3}\,x^{39}+1287\,a^{8}\,b^{4}\,x^{52}+1716\,a^{7}\,b^{5}\,x^{65}+1716\,a^{6}\,b^{6}\,x^{78}+1287\,a^{5}\,b^{7}\,x^{91}+715\,a^{4}\,b^{8}\,x^{104}+286\,a^{3}\,b^{9}\,x^{117}+78\,a^{2}\,b^{10}\,x^{130}+13\,a\,b^{11}\,x^{143}+b^{12}\,x^{156}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{12}\left(a\,x+b\,x^{26}\right)^{12},\ x,\ 3,\ 0\right\}$

$$\frac{\left(a+b\,x^{25}\right)^{13}}{325\,b}$$

$$\frac{1}{325}\,x^{25}\left(13\,a^{12}+78\,a^{11}\,b\,x^{25}+286\,a^{10}\,b^{2}\,x^{50}+715\,a^{9}\,b^{3}\,x^{75}+1287\,a^{8}\,b^{4}\,x^{100}+1716\,a^{7}\,b^{5}\,x^{125}+1716\,a^{6}\,b^{6}\,x^{150}+1287\,a^{5}\,b^{7}\,x^{175}+715\,a^{4}\,b^{8}\,x^{200}+286\,a^{3}\,b^{9}\,x^{225}+78\,a^{2}\,b^{10}\,x^{250}+13\,a\,b^{11}\,x^{275}+b^{12}\,x^{300}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{24}\left(a\,x+b\,x^{38}\right)^{12},\ x,\ 3,\ 0\right\}$

$$\frac{\left(a+b\,x^{37}\right)^{13}}{481\,b}$$

$$\frac{1}{481}\,x^{37}\left(13\,a^{12}+78\,a^{11}\,b\,x^{37}+286\,a^{10}\,b^{2}\,x^{74}+715\,a^{9}\,b^{3}\,x^{111}+1287\,a^{8}\,b^{4}\,x^{148}+1716\,a^{7}\,b^{5}\,x^{185}+1716\,a^{6}\,b^{6}\,x^{222}+1287\,a^{5}\,b^{7}\,x^{259}+715\,a^{4}\,b^{8}\,x^{296}+286\,a^{3}\,b^{9}\,x^{333}+78\,a^{2}\,b^{10}\,x^{370}+13\,a\,b^{11}\,x^{407}+b^{12}\,x^{444}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{12\,(-1+m)}\left(a\,x+b\,x^{2+12\,m}\right)^{12},\ x,\ 3,\ 0\right\}$

$$\frac{\left(a+b\,x^{1+12\,m}\right)^{13}}{13\,b\,(1+12\,m)}$$

$$\frac{1}{13+156\,m}\,x^{1+12\,m}\left(13\,a^{12}+78\,a^{11}\,b\,x^{1+12\,m}+286\,a^{10}\,b^{2}\,x^{2+24\,m}+715\,a^{9}\,b^{3}\,x^{3+36\,m}+1287\,a^{8}\,b^{4}\,x^{4+48\,m}+1716\,a^{7}\,b^{5}\,x^{5+60\,m}+1716\,a^{6}\,b^{6}\,x^{6+72\,m}+1287\,a^{5}\,b^{7}\,x^{7+84\,m}+715\,a^{4}\,b^{8}\,x^{8+96\,m}+286\,a^{3}\,b^{9}\,x^{9+108\,m}+78\,a^{2}\,b^{10}\,x^{10+120\,m}+13\,a\,b^{11}\,x^{11+132\,m}+b^{12}\,x^{12+144\,m}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{\left(a\,x+b\,x^{14}\right)^{12},\ x,\ 3,\ 0\right\}$

$$\frac{\left(a+b\,x^{13}\right)^{13}}{169\,b}$$

$$\frac{1}{169}\,x^{13}\left(13\,a^{12}+78\,a^{11}\,b\,x^{13}+286\,a^{10}\,b^2\,x^{26}+715\,a^9\,b^3\,x^{39}+1287\,a^8\,b^4\,x^{52}+1716\,a^7\,b^5\,x^{65}+1716\,a^6\,b^6\,x^{78}+1287\,a^5\,b^7\,x^{91}+715\,a^4\,b^8\,x^{104}+286\,a^3\,b^9\,x^{117}+78\,a^2\,b^{10}\,x^{130}+13\,a\,b^{11}\,x^{143}+b^{12}\,x^{156}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a\,x^2+b\,x^{27}\right)^{12},\ x,\ 3,\ 0\right\}$$

$$\frac{\left(a+b\,x^{25}\right)^{13}}{325\,b}$$

$$\frac{1}{325}\,x^{25}\left(13\,a^{12}+78\,a^{11}\,b\,x^{25}+286\,a^{10}\,b^2\,x^{50}+715\,a^9\,b^3\,x^{75}+1287\,a^8\,b^4\,x^{100}+1716\,a^7\,b^5\,x^{125}+1716\,a^6\,b^6\,x^{150}+1287\,a^5\,b^7\,x^{175}+715\,a^4\,b^8\,x^{200}+286\,a^3\,b^9\,x^{225}+78\,a^2\,b^{10}\,x^{250}+13\,a\,b^{11}\,x^{275}+b^{12}\,x^{300}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a\,x^3+b\,x^{40}\right)^{12},\ x,\ 3,\ 0\right\}$$

$$\frac{\left(a+b\,x^{37}\right)^{13}}{481\,b}$$

$$\frac{1}{481}\,x^{37}\left(13\,a^{12}+78\,a^{11}\,b\,x^{37}+286\,a^{10}\,b^2\,x^{74}+715\,a^9\,b^3\,x^{111}+1287\,a^8\,b^4\,x^{148}+1716\,a^7\,b^5\,x^{185}+1716\,a^6\,b^6\,x^{222}+1287\,a^5\,b^7\,x^{259}+715\,a^4\,b^8\,x^{296}+286\,a^3\,b^9\,x^{333}+78\,a^2\,b^{10}\,x^{370}+13\,a\,b^{11}\,x^{407}+b^{12}\,x^{444}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a\,x^m+b\,x^{1+13\,m}\right)^{12},\ x,\ 3,\ 0\right\}$$

$$\frac{\left(a+b\,x^{1+12\,m}\right)^{13}}{13\,b\,(1+12\,m)}$$

$$\frac{1}{13+156\,m}\,x^{1+12\,m}\left(13\,a^{12}+78\,a^{11}\,b\,x^{1+12\,m}+286\,a^{10}\,b^2\,x^{2+24\,m}+715\,a^9\,b^3\,x^{3+36\,m}+1287\,a^8\,b^4\,x^{4+48\,m}+1716\,a^7\,b^5\,x^{5+60\,m}+1716\,a^6\,b^6\,x^{6+72\,m}+1287\,a^5\,b^7\,x^{7+84\,m}+715\,a^4\,b^8\,x^{8+96\,m}+286\,a^3\,b^9\,x^{9+108\,m}+78\,a^2\,b^{10}\,x^{10+120\,m}+13\,a\,b^{11}\,x^{11+132\,m}+b^{12}\,x^{12+144\,m}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^p\left(a\,x^n+b\,x^{1+13\,n+p}\right)^{12},\ x,\ 3,\ 0\right\}$$

$$\frac{\left(a+b\,x^{1+12\,n+p}\right)^{13}}{13\,b\,(1+12\,n+p)}$$

$$\frac{1}{13\,(1+12\,n+p)}\,x^{1+12\,n+p}\left(13\,a^{12}+78\,a^{11}\,b\,x^{1+12\,n+p}+286\,a^3\,b^9\,x^{9\,(1+12\,n+p)}+78\,a^2\,b^{10}\,x^{10\,(1+12\,n+p)}+13\,a\,b^{11}\,x^{11\,(1+12\,n+p)}+b^{12}\,x^{12\,(1+12\,n+p)}+286\,a^{10}\,b^2\,x^{2+24\,n+2\,p}+715\,a^9\,b^3\,x^{3+36\,n+3\,p}+1287\,a^8\,b^4\,x^{4+48\,n+4\,p}+1716\,a^7\,b^5\,x^{5+60\,n+5\,p}+1716\,a^6\,b^6\,x^{6+72\,n+6\,p}+1287\,a^5\,b^7\,x^{7+84\,n+7\,p}+715\,a^4\,b^8\,x^{8+96\,n+8\,p}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^{12}\left(a+b\,x^{13}\right)^{12},\ x,\ 2,\ 0\right\}$$

$$\frac{\left(a+b\,x^{13}\right)^{13}}{169\,b}$$

$$\frac{1}{169}\,x^{13}\,\left(13\,a^{12}+78\,a^{11}\,b\,x^{13}+286\,a^{10}\,b^2\,x^{26}+715\,a^9\,b^3\,x^{39}+1287\,a^8\,b^4\,x^{52}+1716\,a^7\,b^5\,x^{65}+1716\,a^6\,b^6\,x^{78}+1287\,a^5\,b^7\,x^{91}+715\,a^4\,b^8\,x^{104}+286\,a^3\,b^9\,x^{117}+78\,a^2\,b^{10}\,x^{130}+13\,a\,b^{11}\,x^{143}+b^{12}\,x^{156}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{12}\,\left(a\,x+b\,x^{26}\right)^{12},\ x,\ 3,\ 0\right\}$

$$\frac{\left(a+b\,x^{25}\right)^{13}}{325\,b}$$

$$\frac{1}{325}\,x^{25}\,\left(13\,a^{12}+78\,a^{11}\,b\,x^{25}+286\,a^{10}\,b^2\,x^{50}+715\,a^9\,b^3\,x^{75}+1287\,a^8\,b^4\,x^{100}+1716\,a^7\,b^5\,x^{125}+1716\,a^6\,b^6\,x^{150}+1287\,a^5\,b^7\,x^{175}+715\,a^4\,b^8\,x^{200}+286\,a^3\,b^9\,x^{225}+78\,a^2\,b^{10}\,x^{250}+13\,a\,b^{11}\,x^{275}+b^{12}\,x^{300}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{12}\,\left(a\,x^2+b\,x^{39}\right)^{12},\ x,\ 3,\ 0\right\}$

$$\frac{\left(a+b\,x^{37}\right)^{13}}{481\,b}$$

$$\frac{1}{481}\,x^{37}\,\left(13\,a^{12}+78\,a^{11}\,b\,x^{37}+286\,a^{10}\,b^2\,x^{74}+715\,a^9\,b^3\,x^{111}+1287\,a^8\,b^4\,x^{148}+1716\,a^7\,b^5\,x^{185}+1716\,a^6\,b^6\,x^{222}+1287\,a^5\,b^7\,x^{259}+715\,a^4\,b^8\,x^{296}+286\,a^3\,b^9\,x^{333}+78\,a^2\,b^{10}\,x^{370}+13\,a\,b^{11}\,x^{407}+b^{12}\,x^{444}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{24}\,\left(a+b\,x^{25}\right)^{12},\ x,\ 2,\ 0\right\}$

$$\frac{\left(a+b\,x^{25}\right)^{13}}{325\,b}$$

$$\frac{1}{325}\,x^{25}\,\left(13\,a^{12}+78\,a^{11}\,b\,x^{25}+286\,a^{10}\,b^2\,x^{50}+715\,a^9\,b^3\,x^{75}+1287\,a^8\,b^4\,x^{100}+1716\,a^7\,b^5\,x^{125}+1716\,a^6\,b^6\,x^{150}+1287\,a^5\,b^7\,x^{175}+715\,a^4\,b^8\,x^{200}+286\,a^3\,b^9\,x^{225}+78\,a^2\,b^{10}\,x^{250}+13\,a\,b^{11}\,x^{275}+b^{12}\,x^{300}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{24}\,\left(a\,x+b\,x^{38}\right)^{12},\ x,\ 3,\ 0\right\}$

$$\frac{\left(a+b\,x^{37}\right)^{13}}{481\,b}$$

$$\frac{1}{481}\,x^{37}\,\left(13\,a^{12}+78\,a^{11}\,b\,x^{37}+286\,a^{10}\,b^2\,x^{74}+715\,a^9\,b^3\,x^{111}+1287\,a^8\,b^4\,x^{148}+1716\,a^7\,b^5\,x^{185}+1716\,a^6\,b^6\,x^{222}+1287\,a^5\,b^7\,x^{259}+715\,a^4\,b^8\,x^{296}+286\,a^3\,b^9\,x^{333}+78\,a^2\,b^{10}\,x^{370}+13\,a\,b^{11}\,x^{407}+b^{12}\,x^{444}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x^{36}\,\left(a+b\,x^{37}\right)^{12},\ x,\ 2,\ 0\right\}$

$$\frac{\left(a+b\,x^{37}\right)^{13}}{481\,b}$$

$$\frac{1}{481} x^{37} \left(13 a^{12} + 78 a^{11} b x^{37} + 286 a^{10} b^2 x^{74} + 715 a^9 b^3 x^{111} + 1287 a^8 b^4 x^{148} + 1716 a^7 b^5 x^{185} + 1716 a^6 b^6 x^{222} + 1287 a^5 b^7 x^{259} + 715 a^4 b^8 x^{296} + 286 a^3 b^9 x^{333} + 78 a^2 b^{10} x^{370} + 13 a b^{11} x^{407} + b^{12} x^{444}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{(5-2x)^6 (2+3x)^3 (-16+33x), x, 1, 0\right\}$

$$-\frac{1}{2} (5-2x)^7 (2+3x)^4$$

$$\frac{1}{2} x \left(-4\,000\,000 - 75\,000 x + 7\,975\,000 x^2 - 98\,125 x^3 - 7\,632\,450 x^4 + 2\,994\,460 x^5 + 2\,470\,808 x^6 - 2\,512\,752 x^7 + 904\,608 x^8 - 153\,792 x^9 + 10\,368 x^{10}\right)$$

Valid but unnecessarily complicated antiderivative:

$\left\{x (a+b x) (c+d x)^{16}, x, 3, 0\right\}$

$$\frac{(b c-18 a d) (2 b c+17 a d) (c+d x)^{17}}{5814 b d^3} - \frac{(2 b c+17 a d) x (c+d x)^{17}}{342 d^2} + \frac{(a+b x)^2 (c+d x)^{17}}{19 b d}$$

$$\frac{1}{2} a c^{16} x^2 + \frac{1}{3} c^{15} (b c+16 a d) x^3 + 2 c^{14} d (2 b c+15 a d) x^4 + 8 c^{13} d^2 (3 b c+14 a d) x^5 + \frac{70}{3} c^{12} d^3 (4 b c+13 a d) x^6 + 52 c^{11} d^4 (5 b c+12 a d) x^7 + 91 c^{10} d^5 (6 b c+11 a d) x^8 + \frac{1144}{9} c^9 d^6 (7 b c+10 a d) x^9 + 143 c^8 d^7 (8 b c+9 a d) x^{10} + 130 c^7 d^8 (9 b c+8 a d) x^{11} + \frac{286}{3} c^6 d^9 (10 b c+7 a d) x^{12} + 56 c^5 d^{10} (11 b c+6 a d) x^{13} + 26 c^4 d^{11} (12 b c+5 a d) x^{14} + \frac{28}{3} c^3 d^{12} (13 b c+4 a d) x^{15} + \frac{5}{2} c^2 d^{13} (14 b c+3 a d) x^{16} + \frac{8}{17} c d^{14} (15 b c+2 a d) x^{17} + \frac{1}{18} d^{15} (16 b c+a d) x^{18} + \frac{1}{19} b d^{16} x^{19}$$

Valid but unnecessarily complicated antiderivative:

$\left\{x (a+b x)^2 (c+d x)^{16}, x, 4, 0\right\}$

$$-\frac{(b c-a d)^2 (3 b c+17 a d) (c+d x)^{17}}{58\,140 b d^4} + \frac{(b c-a d) (3 b c+17 a d) (a+b x) (c+d x)^{17}}{3420 b d^3} - \frac{(3 b c+17 a d) (a+b x)^2 (c+d x)^{17}}{380 b d^2} + \frac{(a+b x)^3 (c+d x)^{17}}{20 b d}$$

$$\frac{1}{2} a^2 c^{16} x^2 + \frac{2}{3} a c^{15} (b c+8 a d) x^3 + \frac{1}{4} c^{14} \left(b^2 c^2+32 a b c d+120 a^2 d^2\right) x^4 + \frac{16}{5} c^{13} d \left(b^2 c^2+15 a b c d+35 a^2 d^2\right) x^5 + \frac{10}{3} c^{12} d^2 \left(6 b^2 c^2+56 a b c d+91 a^2 d^2\right) x^6 + 8 c^{11} d^3 \left(10 b^2 c^2+65 a b c d+78 a^2 d^2\right) x^7 + \frac{91}{2} c^{10} d^4 \left(5 b^2 c^2+24 a b c d+22 a^2 d^2\right) x^8 + \frac{208}{9} c^9 d^5 \left(21 b^2 c^2+77 a b c d+55 a^2 d^2\right) x^9 + \frac{143}{5} c^8 d^6 \left(28 b^2 c^2+80 a b c d+45 a^2 d^2\right) x^{10} + 260 c^7 d^7 \left(4 b^2 c^2+9 a b c d+4 a^2 d^2\right) x^{11} + \frac{143}{6} c^6 d^8 \left(45 b^2 c^2+80 a b c d+28 a^2 d^2\right) x^{12} + 16 c^5 d^9 \left(55 b^2 c^2+77 a b c d+21 a^2 d^2\right) x^{13} + 26 c^4 d^{10} \left(22 b^2 c^2+24 a b c d+5 a^2 d^2\right) x^{14} + \frac{56}{15} c^3 d^{11} \left(78 b^2 c^2+65 a b c d+10 a^2 d^2\right) x^{15} + \frac{5}{4} c^2 d^{12} \left(91 b^2 c^2+56 a b c d+6 a^2 d^2\right) x^{16} + \frac{16}{17} c d^{13} \left(35 b^2 c^2+15 a b c d+a^2 d^2\right) x^{17} + \frac{1}{18} d^{14} \left(120 b^2 c^2+32 a b c d+a^2 d^2\right) x^{18} + \frac{2}{19} b d^{15} (8 b c+a d) x^{19} + \frac{1}{20} b^2 d^{16} x^{20}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(a+b x)\left(1+\left(a x+\frac{b x^2}{2}\right)^4\right), x, 2, 0\right\}$$

$$a x+\frac{b x^2}{2}+\frac{1}{160} x^5 (2 a+b x)^5$$

$$\frac{1}{160} x \left(32 a^5 x^4+80 a^4 b x^5+80 a^3 b^2 x^6+40 a^2 b^3 x^7+10 a \left(16+b^4 x^8\right)+b x \left(80+b^4 x^8\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(a+b x)\left(1+\left(c+a x+\frac{b x^2}{2}\right)^4\right), x, 2, 0\right\}$$

$$c+a x+\frac{b x^2}{2}+\frac{1}{160}\left(2 c+2 a x+b x^2\right)^5$$

$$\frac{1}{160} x (2 a+b x) \left(80+80 c^4+16 a^4 x^4+32 a^3 b x^5+24 a^2 b^2 x^6+8 a b^3 x^7+b^4 x^8+80 c^3 x (2 a+b x)+40 c^2 x^2 (2 a+b x)^2+10 c x^3 (2 a+b x)^3\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a+c x^2\right)\left(1+\left(a x+\frac{c x^3}{3}\right)^5\right), x, 2, 0\right\}$$

$$a x+\frac{c x^3}{3}+\frac{x^6 \left(3 a+c x^2\right)^6}{4374}$$

$$\frac{x \left(729 a^6 x^5+1458 a^5 c x^7+1215 a^4 c^2 x^9+540 a^3 c^3 x^{11}+135 a^2 c^4 x^{13}+18 a \left(243+c^5 x^{15}\right)+c x^2 \left(1458+c^5 x^{15}\right)\right)}{4374}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a+c x^2\right)\left(1+\left(d+a x+\frac{c x^3}{3}\right)^5\right), x, 2, 0\right\}$$

$$d+a x+\frac{c x^3}{3}+\frac{\left(3 d+3 a x+c x^3\right)^6}{4374}$$

$$\frac{1}{4374} x \left(3 a+c x^2\right) \left(1458+1458 d^5+243 a^5 x^5+405 a^4 c x^7+270 a^3 c^2 x^9+90 a^2 c^3 x^{11}+15 a c^4 x^{13}+c^5 x^{15}+1215 d^4 \left(3 a x+c x^3\right)+540 d^3 \left(3 a x+c x^3\right)^2+135 d^2 \left(3 a x+c x^3\right)^3+18 d \left(3 a x+c x^3\right)^4\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(b x+c x^2\right)\left(1+\left(\frac{b x^2}{2}+\frac{c x^3}{3}\right)^5\right), x, 2, 0\right\}$$

$$\frac{b x^2}{2}+\frac{c x^3}{3}+\frac{x^{12} (3 b+2 c x)^6}{279936}$$

$$\frac{x^2 \left(729 b^6 x^{10}+2916 b^5 c x^{11}+4860 b^4 c^2 x^{12}+4320 b^3 c^3 x^{13}+2160 b^2 c^4 x^{14}+576 b \left(243+c^5 x^{15}\right)+64 c x \left(1458+c^5 x^{15}\right)\right)}{279936}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(b x+c x^2\right)\left(1+\left(d+\frac{b x^2}{2}+\frac{c x^3}{3}\right)^5\right),\ x,\ 2,\ 0\right\}$$

$$d+\frac{b x^2}{2}+\frac{c x^3}{3}+\frac{\left(6 d+3 b x^2+2 c x^3\right)^6}{279936}$$

$$\frac{1}{279936} x^2 (3 b+2 c x) \left(46656+46656 d^5+243 b^5 x^{10}+810 b^4 c x^{11}+1080 b^3 c^2 x^{12}+720 b^2 c^3 x^{13}+240 b c^4 x^{14}+32 c^5 x^{15}+19440 d^4 x^2 (3 b+2 c x)+4320 d^3 x^4 (3 b+2 c x)^2+540 d^2 x^6 (3 b+2 c x)^3+36 d x^8 (3 b+2 c x)^4\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a+b x+c x^2\right)\left(1+\left(a x+\frac{b x^2}{2}+\frac{c x^3}{3}\right)^5\right),\ x,\ 2,\ 0\right\}$$

$$a x+\frac{b x^2}{2}+\frac{c x^3}{3}+\frac{x^6\left(6 a+3 b x+2 c x^2\right)^6}{279936}$$

$$\frac{a^6 x^6}{6}+\frac{1}{6} a^5 x^7 (3 b+2 c x)+\frac{5}{72} a^4 x^8 (3 b+2 c x)^2+\frac{5}{324} a^3 x^9 (3 b+2 c x)^3+\frac{5 a^2 x^{10} (3 b+2 c x)^4}{2592}+a\left(x+\frac{b^5 x^{11}}{32}+\frac{5}{48} b^4 c x^{12}+\frac{5}{36} b^3 c^2 x^{13}+\frac{5}{54} b^2 c^3 x^{14}+\frac{5}{162} b c^4 x^{15}+\frac{c^5 x^{16}}{243}\right)+\frac{x^2\left(729 b^6 x^{10}+2916 b^5 c x^{11}+4860 b^4 c^2 x^{12}+4320 b^3 c^3 x^{13}+2160 b^2 c^4 x^{14}+576 b\left(243+c^5 x^{15}\right)+64 c x\left(1458+c^5 x^{15}\right)\right)}{279936}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a+b x+c x^2\right)\left(1+\left(d+a x+\frac{b x^2}{2}+\frac{c x^3}{3}\right)^5\right),\ x,\ 2,\ 0\right\}$$

$$d+a x+\frac{b x^2}{2}+\frac{c x^3}{3}+\frac{\left(6 d+6 a x+3 b x^2+2 c x^3\right)^6}{279936}$$

$$\frac{1}{279936} x (6 a+x (3 b+2 c x)) \left(46656+46656 d^5+7776 a^5 x^5+243 b^5 x^{10}+810 b^4 c x^{11}+1080 b^3 c^2 x^{12}+720 b^2 c^3 x^{13}+240 b c^4 x^{14}+32 c^5 x^{15}+6480 a^4 x^6 (3 b+2 c x)+2160 a^3 x^7 (3 b+2 c x)^2+360 a^2 x^8 (3 b+2 c x)^3+30 a x^9 (3 b+2 c x)^4+19440 d^4 x (6 a+x (3 b+2 c x))+4320 d^3 x^2 (6 a+x (3 b+2 c x))^2+540 d^2 x^3 (6 a+x (3 b+2 c x))^3+36 d x^4 (6 a+x (3 b+2 c x))^4\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(2+3 x)^6\left(1+(2+3 x)^7+(2+3 x)^{14}\right),\ x,\ 2,\ 0\right\}$$

$$\frac{1}{21}(2+3 x)^7+\frac{1}{42}(2+3 x)^{14}+\frac{1}{63}(2+3 x)^{21}$$

$$1056832 x+15808800 x^2+149902032 x^3+1010576952 x^4+5149786572 x^5+20588764518 x^6+66158154783 x^7+173635132896 x^8+376174427616 x^9+677082445416 x^{10}+1015602174288 x^{11}+1269491970942 x^{12}+1318314865122 x^{13}+\frac{15819767221203 x^{14}}{14}+790988281344 x^{15}+444930908256 x^{16}+196293047760 x^{17}+65431015920 x^{18}+15496819560 x^{19}+2324522934 x^{20}+\frac{1162261467 x^{21}}{7}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{(2+3 x)^6\left(1+(2+3 x)^7+(2+3 x)^{14}\right)^2,\ x,\ 3,\ 0\right\}$$

$$\frac{1}{21}(2+3x)^7+\frac{1}{21}(2+3x)^{14}+\frac{1}{21}(2+3x)^{21}+\frac{1}{42}(2+3x)^{28}+\frac{1}{105}(2+3x)^{35}$$

$$17\,451\,466\,816\,x+443\,569\,828\,128\,x^2+7\,299\,544\,818\,384\,x^3+87\,406\,679\,578\,680\,x^4+\frac{4\,057\,390\,785\,756\,924\,x^5}{5}+6\,077\,684\,727\,888\,102\,x^6+37\,727\,143\,432\,895\,007\,x^7+197\,897\,276\,851\,452\,864\,x^8+889\,942\,562\,270\,387\,136\,x^9+\frac{17\,344\,958\,593\,049\,772\,048\,x^{10}}{5}+11\,821\,487\,501\,620\,716\,192\,x^{11}+35\,454\,069\,480\,572\,048\,124\,x^{12}+94\,069\,263\,918\,929\,616\,324\,x^{13}+221\,699\,757\,548\,270\,194\,389\,x^{14}+465\,517\,091\,041\,681\,015\,296\,x^{15}+872\,775\,774\,067\,455\,498\,528\,x^{16}+1\,463\,104\,032\,160\,519\,033\,200\,x^{17}+2\,194\,577\,166\,014\,752\,240\,080\,x^{18}+2\,945\,285\,062\,308\,448\,290\,360\,x^{19}+3\,534\,290\,697\,929\,473\,864\,098\,x^{20}+\frac{26\,506\,949\,038\,858\,918\,036\,881\,x^{21}}{7}+3\,614\,565\,944\,605\,222\,108\,800\,x^{22}+3\,064\,515\,076\,512\,846\,852\,480\,x^{23}+2\,298\,383\,223\,254\,096\,766\,840\,x^{24}+\frac{7\,584\,660\,010\,542\,711\,771\,792\,x^{25}}{5}+875\,152\,864\,622\,814\,086\,340\,x^{26}+437\,576\,396\,725\,285\,446\,564\,x^{27}+\frac{2\,625\,458\,326\,972\,530\,284\,475\,x^{28}}{14}+67\,899\,784\,121\,041\,365\,504\,x^{29}+\frac{101\,849\,676\,181\,562\,048\,256\,x^{30}}{5}+4\,928\,210\,137\,817\,518\,464\,x^{31}+924\,039\,400\,840\,784\,712\,x^{32}+126\,005\,372\,841\,925\,188\,x^{33}+11\,118\,121\,133\,111\,046\,x^{34}+\frac{16\,677\,181\,699\,666\,569\,x^{35}}{35}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{9+5x^2+x^4},\ x,\ 3,\ 0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{\sqrt{11}\,x}{3-x^2}\right]}{6\sqrt{11}}+\frac{1}{6}\text{ArcTanh}\left[\frac{x}{3+x^2}\right]$$

$$\frac{1}{66}\,i\left(-\sqrt{22\left(5+i\sqrt{11}\right)}\ \text{ArcTan}\left[\frac{x}{\sqrt{\frac{1}{2}\left(5-i\sqrt{11}\right)}}\right]+\sqrt{22\left(5-i\sqrt{11}\right)}\ \text{ArcTan}\left[\frac{x}{\sqrt{\frac{1}{2}\left(5+i\sqrt{11}\right)}}\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^2}{1-x^2+x^4},\ x,\ 3,\ 0\right\}$$

$$\frac{1}{2}\text{ArcTan}\left[\frac{x}{1-x^2}\right]-\frac{\text{ArcTanh}\left[\frac{\sqrt{3}\,x}{1+x^2}\right]}{2\sqrt{3}}$$

$$\frac{\left(i+\sqrt{3}\right)\text{ArcTan}\left[\frac{1}{2}\left(1-i\sqrt{3}\right)x\right]}{\sqrt{-6+6\,i\sqrt{3}}}+\frac{\left(-i+\sqrt{3}\right)\text{ArcTan}\left[\frac{1}{2}\left(1+i\sqrt{3}\right)x\right]}{\sqrt{-6-6\,i\sqrt{3}}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1+x^2}{1+b\,x^2+x^4},\ x,\ 1,\ 0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{\sqrt{2+b}\,x}{1-x^2}\right]}{\sqrt{2+b}}$$

$$\frac{\frac{\left(2-b+\sqrt{-4+b^2}\right)\text{ArcTan}\left[\frac{\sqrt{2}\,x}{\sqrt{b-\sqrt{-4+b^2}}}\right]}{\sqrt{b-\sqrt{-4+b^2}}}+\frac{\left(-2+b+\sqrt{-4+b^2}\right)\text{ArcTan}\left[\frac{\sqrt{2}\,x}{\sqrt{b+\sqrt{-4+b^2}}}\right]}{\sqrt{b+\sqrt{-4+b^2}}}}{\sqrt{2}\,\sqrt{-4+b^2}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1-x^2}{1+b\,x^2+x^4},\,x,\,1,\,0\right\}$$

$$\frac{\text{ArcTanh}\left[\frac{\sqrt{2-b}\,x}{1+x^2}\right]}{\sqrt{2-b}}$$

$$\frac{\frac{\left(2+b-\sqrt{-4+b^2}\right)\text{ArcTan}\left[\frac{\sqrt{2}\,x}{\sqrt{b-\sqrt{-4+b^2}}}\right]}{\sqrt{b-\sqrt{-4+b^2}}}-\frac{\left(2+b+\sqrt{-4+b^2}\right)\text{ArcTan}\left[\frac{\sqrt{2}\,x}{\sqrt{b+\sqrt{-4+b^2}}}\right]}{\sqrt{b+\sqrt{-4+b^2}}}}{\sqrt{2}\,\sqrt{-4+b^2}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{d+e\,x^2}{\frac{c\,d^2}{e^2}+b\,x^2+c\,x^4},\,x,\,1,\,0\right\}$$

$$\frac{e\,\text{ArcTan}\left[\frac{\sqrt{b+\frac{2\,c\,d}{e}}\;e\,x}{\sqrt{c}\,\left(d-e\,x^2\right)}\right]}{\sqrt{c}\,\sqrt{b+\frac{2\,c\,d}{e}}}$$

$$\frac{e^{3/2}\left(\frac{\left(2\,c\,d-b\,e+\sqrt{-4\,c^2\,d^2+b^2\,e^2}\right)\text{ArcTan}\left[\frac{\sqrt{2}\,\sqrt{c}\,\sqrt{e}\,x}{\sqrt{b\,e-\sqrt{-4\,c^2\,d^2+b^2\,e^2}}}\right]}{\sqrt{b\,e-\sqrt{-4\,c^2\,d^2+b^2\,e^2}}}+\frac{\left(-2\,c\,d+b\,e+\sqrt{-4\,c^2\,d^2+b^2\,e^2}\right)\text{ArcTan}\left[\frac{\sqrt{2}\,\sqrt{c}\,\sqrt{e}\,x}{\sqrt{b\,e+\sqrt{-4\,c^2\,d^2+b^2\,e^2}}}\right]}{\sqrt{b\,e+\sqrt{-4\,c^2\,d^2+b^2\,e^2}}}\right)}{\sqrt{2}\,\sqrt{c}\,\sqrt{-4\,c^2\,d^2+b^2\,e^2}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{2+x^3+x^6},\,x,\,11,\,0\right\}$$

$$\frac{i\,\text{ArcTan}\left[\frac{2^{2/3}\left(1-i\sqrt{7}\right)^{1/3}-4\,x}{2^{2/3}\sqrt{3}\left(1-i\sqrt{7}\right)^{1/3}}\right]}{\sqrt{21}\left(\frac{1}{2}\left(1-i\sqrt{7}\right)\right)^{2/3}}-\frac{i\,\text{ArcTan}\left[\frac{\left(1-i\sqrt{7}\right)^{1/3}\left(2^{2/3}\left(1+i\sqrt{7}\right)^{1/3}-4\,x\right)}{2\times2^{2/3}\sqrt{3}}\right]}{\sqrt{21}\left(\frac{1}{2}\left(1+i\sqrt{7}\right)\right)^{2/3}}-$$

$$\frac{i\,\text{Log}\left[2^{2/3}\left(1-i\sqrt{7}\right)^{1/3}+2\,x\right]}{3\sqrt{7}\left(\frac{1}{2}\left(1-i\sqrt{7}\right)\right)^{2/3}}+\frac{i\,\text{Log}\left[2^{2/3}\left(1+i\sqrt{7}\right)^{1/3}+2\,x\right]}{3\sqrt{7}\left(\frac{1}{2}\left(1+i\sqrt{7}\right)\right)^{2/3}}+$$

$$\frac{i\,\text{Log}\left[2^{1/3}\left(1-i\sqrt{7}\right)^{2/3}-2^{2/3}\left(1-i\sqrt{7}\right)^{1/3}x+2\,x^2\right]}{3\times2^{1/3}\sqrt{7}\left(1-i\sqrt{7}\right)^{2/3}}-\frac{i\,\text{Log}\left[\left(\sqrt{2}+i\sqrt{14}\right)^{2/3}-2^{2/3}\left(1+i\sqrt{7}\right)^{1/3}x+2\,x^2\right]}{3\sqrt{7}\left(\sqrt{2}+i\sqrt{14}\right)^{2/3}}$$

$$\frac{1}{3}\,\text{RootSum}\left[2+\#1^3+\#1^6\,\&,\ \frac{\text{Log}[x-\#1]}{\#1^2+2\,\#1^5}\,\&\right]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^3}{2+x^3+x^6},\ x,\ 11,\ 0\right\}$$

$$-\frac{\left(7+i\sqrt{7}\right)\text{ArcTan}\left[\frac{2^{2/3}\left(1-i\sqrt{7}\right)^{1/3}-4x}{2^{2/3}\sqrt{3}\left(1-i\sqrt{7}\right)^{1/3}}\right]}{7\times 2^{1/3}\sqrt{3}\left(1-i\sqrt{7}\right)^{2/3}}-\frac{\left(7-i\sqrt{7}\right)\text{ArcTan}\left[\frac{\left(1-i\sqrt{7}\right)^{1/3}\left(2^{2/3}\left(1+i\sqrt{7}\right)^{1/3}-4x\right)}{2\times 2^{2/3}\sqrt{3}}\right]}{7\sqrt{3}\left(\sqrt{2}+i\sqrt{14}\right)^{2/3}}+$$

$$\frac{i\left(\frac{1}{2}\left(1-i\sqrt{7}\right)\right)^{1/3}\text{Log}\left[2^{2/3}\left(1-i\sqrt{7}\right)^{1/3}+2x\right]}{3\sqrt{7}}+\frac{\left(7-i\sqrt{7}\right)\text{Log}\left[2^{2/3}\left(1+i\sqrt{7}\right)^{1/3}+2x\right]}{21\left(\sqrt{2}+i\sqrt{14}\right)^{2/3}}-$$

$$\frac{\left(7+i\sqrt{7}\right)\text{Log}\left[2^{1/3}\left(1-i\sqrt{7}\right)^{2/3}-2^{2/3}\left(1-i\sqrt{7}\right)^{1/3}x+2x^2\right]}{42\times 2^{1/3}\left(1-i\sqrt{7}\right)^{2/3}}-\frac{\left(7-i\sqrt{7}\right)\text{Log}\left[\left(\sqrt{2}+i\sqrt{14}\right)^{2/3}-2^{2/3}\left(1+i\sqrt{7}\right)^{1/3}x+2x^2\right]}{42\left(\sqrt{2}+i\sqrt{14}\right)^{2/3}}$$

$$\frac{1}{3}\,\text{RootSum}\left[2+\#1^3+\#1^6\,\&,\ \frac{\text{Log}[x-\#1]\,\#1}{1+2\,\#1^3}\,\&\right]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{x\left(1+x^3+x^6\right)},\ x,\ 3,\ 0\right\}$$

$$-\frac{\text{ArcTan}\left[\frac{1+2x^3}{\sqrt{3}}\right]}{3\sqrt{3}}+\text{Log}[x]-\frac{1}{6}\,\text{Log}\left[1+x^3+x^6\right]$$

$$\text{Log}[x]-\frac{1}{3}\,\text{RootSum}\left[1+\#1^3+\#1^6\,\&,\ \frac{\text{Log}[x-\#1]+\text{Log}[x-\#1]\,\#1^3}{1+2\,\#1^3}\,\&\right]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{2+x^4+x^8},\ x,\ 7,\ 0\right\}$$

$$-\frac{\left(\sqrt{2}-\sqrt{4-\sqrt{2}}\right)\text{ArcTan}\left[\frac{\sqrt{2\sqrt{2}-\sqrt{4-\sqrt{2}}}\ x}{2^{1/8}\left(2^{1/4}-x^2\right)}\right]}{4\times 2^{7/8}\sqrt{\left(-1+2\sqrt{2}\right)\left(2\sqrt{2}-\sqrt{4-\sqrt{2}}\right)}}+\frac{\left(\sqrt{2}+\sqrt{4-\sqrt{2}}\right)\text{ArcTan}\left[\frac{\sqrt{2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}}\ x}{2^{1/4}-x^2}\right]}{8\sqrt{\left(-1+2\sqrt{2}\right)\left(2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}\right)}}-$$

$$\frac{\left(\sqrt{2}-\sqrt{4-\sqrt{2}}\right)\text{ArcTanh}\left[\frac{\sqrt{2\sqrt{2}-\sqrt{4-\sqrt{2}}}\ x}{2^{1/8}\left(2^{1/4}+x^2\right)}\right]}{4\times 2^{7/8}\sqrt{\left(-1+2\sqrt{2}\right)\left(2\sqrt{2}-\sqrt{4-\sqrt{2}}\right)}}+\frac{\left(\sqrt{2}+\sqrt{4-\sqrt{2}}\right)\text{ArcTanh}\left[\frac{\sqrt{2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}}\ x}{2^{1/4}+x^2}\right]}{8\sqrt{\left(-1+2\sqrt{2}\right)\left(2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}\right)}}$$

$$\frac{1}{4}\,\text{RootSum}\left[2+\#1^4+\#1^8\,\&,\ \frac{\text{Log}[x-\#1]}{\#1^3+2\,\#1^7}\,\&\right]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^2}{2+x^4+x^8},\ x,\ 7,\ 0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{\sqrt{2\sqrt{2}-\sqrt{4-\sqrt{2}}}\ x}{2^{1/8}\left(2^{1/4}-x^2\right)}\right]}{4\times 2^{1/8}\sqrt{\left(-1+2\sqrt{2}\right)\left(2\sqrt{2}-\sqrt{4-\sqrt{2}}\right)}}-\frac{\text{ArcTan}\left[\frac{\sqrt{2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}}\ x}{2^{1/4}-x^2}\right]}{4\times 2^{1/4}\sqrt{\left(-1+2\sqrt{2}\right)\left(2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}\right)}}-$$

$$\frac{\text{ArcTanh}\left[\frac{\sqrt{2\sqrt{2}-\sqrt{4-\sqrt{2}}}\ x}{2^{1/8}\left(2^{1/4}+x^2\right)}\right]}{4\times 2^{1/8}\sqrt{\left(-1+2\sqrt{2}\right)\left(2\sqrt{2}-\sqrt{4-\sqrt{2}}\right)}}+\frac{\text{ArcTanh}\left[\frac{\sqrt{2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}}\ x}{2^{1/4}+x^2}\right]}{4\times 2^{1/4}\sqrt{\left(-1+2\sqrt{2}\right)\left(2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}\right)}}$$

$$\frac{1}{4}\text{RootSum}\left[2+\#1^4+\#1^8\ \&,\ \frac{\text{Log}[x-\#1]}{\#1+2\#1^5}\ \&\right]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^4}{2+x^4+x^8},\ x,\ 7,\ 0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{\sqrt{2\sqrt{2}-\sqrt{4-\sqrt{2}}}\ x}{2^{1/8}\left(2^{1/4}-x^2\right)}\right]}{2\times 2^{7/8}\sqrt{\left(-1+2\sqrt{2}\right)\left(2\sqrt{2}-\sqrt{4-\sqrt{2}}\right)}}-\frac{\text{ArcTan}\left[\frac{\sqrt{2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}}\ x}{2^{1/4}-x^2}\right]}{4\sqrt{\left(-1+2\sqrt{2}\right)\left(2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}\right)}}+$$

$$\frac{\text{ArcTanh}\left[\frac{\sqrt{2\sqrt{2}-\sqrt{4-\sqrt{2}}}\ x}{2^{1/8}\left(2^{1/4}+x^2\right)}\right]}{2\times 2^{7/8}\sqrt{\left(-1+2\sqrt{2}\right)\left(2\sqrt{2}-\sqrt{4-\sqrt{2}}\right)}}-\frac{\text{ArcTanh}\left[\frac{\sqrt{2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}}\ x}{2^{1/4}+x^2}\right]}{4\sqrt{\left(-1+2\sqrt{2}\right)\left(2\times 2^{1/4}+\sqrt{-1+2\sqrt{2}}\right)}}$$

$$\frac{1}{4}\text{RootSum}\left[2+\#1^4+\#1^8\ \&,\ \frac{\text{Log}[x-\#1]\ \#1}{1+2\#1^4}\ \&\right]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{x\left(1+x^5+x^{10}\right)},\ x,\ 3,\ 0\right\}$$

$$-\frac{\text{ArcTan}\left[\frac{1+2x^5}{\sqrt{3}}\right]}{5\sqrt{3}}+\text{Log}[x]-\frac{1}{10}\text{Log}\left[1+x^5+x^{10}\right]$$

$$\frac{\text{ArcTan}\left[\frac{1+2x}{\sqrt{3}}\right]}{5\sqrt{3}} + \text{Log}[x] - \frac{1}{10}\text{Log}\left[1+x+x^2\right] - \frac{1}{5}\text{RootSum}\Big[1 - \#1 + \#1^3 - \#1^4 + \#1^5 - \#1^7 + \#1^8\,\&,$$
$$\frac{-\text{Log}[x-\#1]\,\#1 + 2\,\text{Log}[x-\#1]\,\#1^2 - \text{Log}[x-\#1]\,\#1^3 + 3\,\text{Log}[x-\#1]\,\#1^4 - \text{Log}[x-\#1]\,\#1^5 - 3\,\text{Log}[x-\#1]\,\#1^6 + 4\,\text{Log}[x-\#1]\,\#1^7}{-1 + 3\,\#1^2 - 4\,\#1^3 + 5\,\#1^4 - 7\,\#1^6 + 8\,\#1^7}\,\&$$
$$\Big]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{x+x^6+x^{11}}, x, 4, 0\right\}$$

$$-\frac{\text{ArcTan}\left[\frac{1+2x^5}{\sqrt{3}}\right]}{5\sqrt{3}} + \text{Log}[x] - \frac{1}{10}\text{Log}\left[1+x^5+x^{10}\right]$$

$$\frac{\text{ArcTan}\left[\frac{1+2x}{\sqrt{3}}\right]}{5\sqrt{3}} + \text{Log}[x] - \frac{1}{10}\text{Log}\left[1+x+x^2\right] - \frac{1}{5}\text{RootSum}\Big[1 - \#1 + \#1^3 - \#1^4 + \#1^5 - \#1^7 + \#1^8\,\&,$$
$$\frac{-\text{Log}[x-\#1]\,\#1 + 2\,\text{Log}[x-\#1]\,\#1^2 - \text{Log}[x-\#1]\,\#1^3 + 3\,\text{Log}[x-\#1]\,\#1^4 - \text{Log}[x-\#1]\,\#1^5 - 3\,\text{Log}[x-\#1]\,\#1^6 + 4\,\text{Log}[x-\#1]\,\#1^7}{-1 + 3\,\#1^2 - 4\,\#1^3 + 5\,\#1^4 - 7\,\#1^6 + 8\,\#1^7}\,\&$$
$$\Big]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{e-2fx^2}{e^2+4dfx^2+4efx^2+4f^2x^4}, x, 1, 0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{2\sqrt{d}\sqrt{f}\,x}{e+2fx^2}\right]}{2\sqrt{d}\sqrt{f}}$$

$$\frac{-\frac{\left(-d-2e+\sqrt{d}\sqrt{d+2e}\right)\text{ArcTan}\left[\frac{\sqrt{2}\sqrt{f}\,x}{\sqrt{d+e-\sqrt{d}\sqrt{d+2e}}}\right]}{\sqrt{d+e-\sqrt{d}\sqrt{d+2e}}} - \frac{\left(d+2e+\sqrt{d}\sqrt{d+2e}\right)\text{ArcTan}\left[\frac{\sqrt{2}\sqrt{f}\,x}{\sqrt{d+e+\sqrt{d}\sqrt{d+2e}}}\right]}{\sqrt{d+e+\sqrt{d}\sqrt{d+2e}}}}{2\sqrt{2}\sqrt{d}\sqrt{d+2e}\sqrt{f}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{e-2fx^2}{e^2-4dfx^2+4efx^2+4f^2x^4}, x, 1, 0\right\}$$

$$\frac{\text{ArcTanh}\left[\frac{2\sqrt{d}\sqrt{f}\,x}{e+2fx^2}\right]}{2\sqrt{d}\sqrt{f}}$$

$$\frac{-\frac{\left(-i\,d+2\,i\,e+\sqrt{d}\sqrt{-d+2e}\right)\text{ArcTan}\left[\frac{\sqrt{2}\sqrt{f}\,x}{\sqrt{-d+e-i\sqrt{d}\sqrt{-d+2e}}}\right]}{\sqrt{-d+e-i\sqrt{d}\sqrt{-d+2e}}} - \frac{\left(i\,d-2\,i\,e+\sqrt{d}\sqrt{-d+2e}\right)\text{ArcTan}\left[\frac{\sqrt{2}\sqrt{f}\,x}{\sqrt{-d+e+i\sqrt{d}\sqrt{-d+2e}}}\right]}{\sqrt{-d+e+i\sqrt{d}\sqrt{-d+2e}}}}{2\sqrt{2}\sqrt{d}\sqrt{-d+2e}\sqrt{f}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{e-4 f x^3}{e^2+4 d f x^2+4 e f x^3+4 f^2 x^6}, x, 1, 0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{2 \sqrt{d} \sqrt{f} x}{e+2 f x^3}\right]}{2 \sqrt{d} \sqrt{f}}$$

$$-\frac{\text{RootSum}\left[e^2+4 d f \#1^2+4 e f \#1^3+4 f^2 \#1^6 \&, \frac{-e \text{Log}[x-\#1]+4 f \text{Log}[x-\#1] \#1^3}{2 d \#1+3 e \#1^2+6 f \#1^5} \&\right]}{4 f}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{e-4 f x^3}{e^2-4 d f x^2+4 e f x^3+4 f^2 x^6}, x, 1, 0\right\}$$

$$\frac{\text{ArcTanh}\left[\frac{2 \sqrt{d} \sqrt{f} x}{e+2 f x^3}\right]}{2 \sqrt{d} \sqrt{f}}$$

$$-\frac{\text{RootSum}\left[e^2-4 d f \#1^2+4 e f \#1^3+4 f^2 \#1^6 \&, \frac{-e \text{Log}[x-\#1]+4 f \text{Log}[x-\#1] \#1^3}{-2 d \#1+3 e \#1^2+6 f \#1^5} \&\right]}{4 f}$$

Unable to integrate:

$$\left\{\frac{e-2 f (-1+n) x^n}{e^2+4 d f x^2+4 e f x^n+4 f^2 x^{2 n}}, x, 1, 0\right\}$$

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

$$\int \frac{e-2 f (-1+n) x^n}{e^2+4 d f x^2+4 e f x^n+4 f^2 x^{2 n}} \, dx$$

Unable to integrate:

$$\left\{\frac{e-2 f (-1+n) x^n}{e^2-4 d f x^2+4 e f x^n+4 f^2 x^{2 n}}, x, 1, 0\right\}$$

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

$$\int \frac{e-2 f (-1+n) x^n}{e^2-4 d f x^2+4 e f x^n+4 f^2 x^{2 n}} \, dx$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^2 \left(3 e+2 f x^2\right)}{e^2+4 e f x^2+4 f^2 x^4+4 d f x^6}, x, 1, 0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{2 \sqrt{d} \sqrt{f} x^3}{e+2 f x^2}\right]}{2 \sqrt{d} \sqrt{f}}$$

$$\frac{\text{RootSum}\left[e^2+4 e f \#1^2+4 f^2 \#1^4+4 d f \#1^6 \&, \frac{3 e \text{Log}[x-\#1] \#1+2 f \text{Log}[x-\#1] \#1^3}{e+2 f \#1^2+3 d \#1^4} \&\right]}{8 f}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^2\left(3e+2fx^2\right)}{e^2+4efx^2+4f^2x^4-4dfx^6},x,1,0\right\}$$

$$\frac{\text{ArcTanh}\left[\frac{2\sqrt{d}\sqrt{f}x^3}{e+2fx^2}\right]}{2\sqrt{d}\sqrt{f}}$$

$$\frac{\text{RootSum}\left[e^2+4ef\,\#1^2+4f^2\,\#1^4-4df\,\#1^6\,\&,\frac{3e\,\text{Log}[x-\#1]\,\#1+2f\,\text{Log}[x-\#1]\,\#1^3}{e+2f\,\#1^2-3d\,\#1^4}\,\&\right]}{8f}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x\left(2e-2fx^3\right)}{e^2+4efx^3+4dfx^4+4f^2x^6},x,1,0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{2\sqrt{d}\sqrt{f}x^2}{e+2fx^3}\right]}{2\sqrt{d}\sqrt{f}}$$

$$-\frac{\text{RootSum}\left[e^2+4ef\,\#1^3+4df\,\#1^4+4f^2\,\#1^6\,\&,\frac{-e\,\text{Log}[x-\#1]+f\,\text{Log}[x-\#1]\,\#1^3}{3e\,\#1+4d\,\#1^2+6f\,\#1^4}\,\&\right]}{2f}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x\left(2e-2fx^3\right)}{e^2+4efx^3-4dfx^4+4f^2x^6},x,1,0\right\}$$

$$\frac{\text{ArcTanh}\left[\frac{2\sqrt{d}\sqrt{f}x^2}{e+2fx^3}\right]}{2\sqrt{d}\sqrt{f}}$$

$$-\frac{\text{RootSum}\left[e^2+4ef\,\#1^3-4df\,\#1^4+4f^2\,\#1^6\,\&,\frac{-e\,\text{Log}[x-\#1]+f\,\text{Log}[x-\#1]\,\#1^3}{3e\,\#1-4d\,\#1^2+6f\,\#1^4}\,\&\right]}{2f}$$

Unable to integrate:

$$\left\{\frac{x^m\left(e(1+m)+2f(1+m-n)x^n\right)}{e^2+4dfx^{2+2m}+4efx^n+4f^2x^{2n}},x,1,0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{2\sqrt{d}\sqrt{f}(1+m)(1+m-n)x^{1+m}}{e(1+m)(1+m-n)+2f(1+m)(1+m-n)x^n}\right]}{2\sqrt{d}\sqrt{f}}$$

$$\int\frac{x^m\left(e(1+m)+2f(1+m-n)x^n\right)}{e^2+4dfx^{2+2m}+4efx^n+4f^2x^{2n}}\,dx$$

Unable to integrate:

$$\left\{\frac{x^m\left(e(1+m)+2f(1+m-n)x^n\right)}{e^2-4dfx^{2+2m}+4efx^n+4f^2x^{2n}},x,1,0\right\}$$

$$\frac{\text{ArcTanh}\left[\frac{2\sqrt{d}\sqrt{f}(1+m)(1+m-n)x^{1+m}}{e(1+m)(1+m-n)+2f(1+m)(1+m-n)x^n}\right]}{2\sqrt{d}\sqrt{f}}$$

$$\int\frac{x^m\left(e(1+m)+2f(1+m-n)x^n\right)}{e^2-4dfx^{2+2m}+4efx^n+4f^2x^{2n}}\,dx$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^5}{x-x^3}, x, 5, 0\right\}$$

$$-x-\frac{x^3}{3}+\text{ArcTanh}[x]$$

$$\frac{1}{6}\left(-2x\left(3+x^2\right)+3\,\text{Log}[-1-x]-3\,\text{Log}[-1+x]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^3}{x-x^3}, x, 4, 0\right\}$$

$$-x+\text{ArcTanh}[x]$$

$$\frac{1}{2}(-2x+\text{Log}[-1-x]-\text{Log}[-1+x])$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x}{x-x^3}, x, 2, 0\right\}$$

$$\text{ArcTanh}[x]$$

$$\frac{1}{2}(\text{Log}[-1-x]-\text{Log}[-1+x])$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{x\left(x-x^3\right)}, x, 5, 0\right\}$$

$$-\frac{1}{x}+\text{ArcTanh}[x]$$

$$\frac{1}{2}\left(-\frac{2}{x}-\text{Log}[1-x]+\text{Log}[1+x]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{x^3\left(x-x^3\right)}, x, 5, 0\right\}$$

$$-\frac{1}{3x^3}-\frac{1}{x}+\text{ArcTanh}[x]$$

$$\frac{1}{6}\left(-\frac{2+6x^2}{x^3}-3\,\text{Log}[1-x]+3\,\text{Log}[1+x]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1-2x^2}{x^2-x^4}, x, 4, 0\right\}$$

$$-\frac{1}{x}-\text{ArcTanh}[x]$$

$$\frac{1}{2}\left(-\frac{2}{x}-\text{Log}[-1-x]+\text{Log}[-1+x]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1+x^3}{x\left(1-x^3+x^6\right)},\ x,\ 3,\ 0\right\}$$

$$-\frac{\text{ArcTan}\left[\frac{1-2x^3}{\sqrt{3}}\right]}{\sqrt{3}}+\text{Log}[x]-\frac{1}{6}\text{Log}\left[1-x^3+x^6\right]$$

$$\text{Log}[x]-\frac{1}{3}\text{RootSum}\left[1-\#1^3+\#1^6\ \&,\ \frac{-2\,\text{Log}[x-\#1]+\text{Log}[x-\#1]\,\#1^3}{-1+2\,\#1^3}\ \&\right]$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1+x^3}{x-x^4+x^7},\ x,\ 6,\ 0\right\}$$

$$-\frac{\text{ArcTan}\left[\frac{1-2x^3}{\sqrt{3}}\right]}{\sqrt{3}}+\text{Log}[x]-\frac{1}{6}\text{Log}\left[1-x^3+x^6\right]$$

$$\text{Log}[x]-\frac{1}{3}\text{RootSum}\left[1-\#1^3+\#1^6\ \&,\ \frac{-2\,\text{Log}[x-\#1]+\text{Log}[x-\#1]\,\#1^3}{-1+2\,\#1^3}\ \&\right]$$

Unable to integrate:

$$\left\{\frac{e-2f(-1+n)x^n}{e^2+4dfx^2+4efx^n+4f^2x^{2n}},\ x,\ 1,\ 0\right\}$$

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

$$\int\frac{e-2f(-1+n)x^n}{e^2+4dfx^2+4efx^n+4f^2x^{2n}}\,dx$$

Unable to integrate:

$$\left\{\frac{e-2f(-1+n)x^n}{e^2-4dfx^2+4efx^n+4f^2x^{2n}},\ x,\ 1,\ 0\right\}$$

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

$$\int\frac{e-2f(-1+n)x^n}{e^2-4dfx^2+4efx^n+4f^2x^{2n}}\,dx$$

Unable to integrate:

$$\left\{\frac{x^m\left(e(1+m)+2f(1+m-n)x^n\right)}{e^2+4dfx^{2+2m}+4efx^n+4f^2x^{2n}},\ x,\ 1,\ 0\right\}$$

$$\frac{\text{ArcTan}\left[\frac{2\sqrt{d}\sqrt{f}(1+m)(1+m-n)x^{1+m}}{e(1+m)(1+m-n)+2f(1+m)(1+m-n)x^n}\right]}{2\sqrt{d}\sqrt{f}}$$

$$\int \frac{x^m \left(e \left(1+m\right)+2 f \left(1+m-n\right) x^n\right)}{e^2+4 d f x^{2+2 m}+4 e f x^n+4 f^2 x^{2 n}} \, dx$$

Unable to integrate:

$$\left\{\frac{x^m \left(e \left(1+m\right)+2 f \left(1+m-n\right) x^n\right)}{e^2-4 d f x^{2+2 m}+4 e f x^n+4 f^2 x^{2 n}}, x, 1, 0\right\}$$

$$\frac{\text{ArcTanh}\left[\frac{2 \sqrt{d} \sqrt{f} \left(1+m\right) \left(1+m-n\right) x^{1+m}}{e \left(1+m\right) \left(1+m-n\right)+2 f \left(1+m\right) \left(1+m-n\right) x^n}\right]}{2 \sqrt{d} \sqrt{f}}$$

$$\int \frac{x^m \left(e \left(1+m\right)+2 f \left(1+m-n\right) x^n\right)}{e^2-4 d f x^{2+2 m}+4 e f x^n+4 f^2 x^{2 n}} \, dx$$