Mathematica 7 Test Results

For Algebraic Function Integration Problems

Algebraic function problems involving linear polynomials

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{\sqrt{3-x}\ \sqrt{5+x}},\ x,\ 1,\ 0\right\}$$

$$-\text{ArcSin}\left[\frac{1}{4}\ (-1-x)\right]$$

$$\frac{2\ \sqrt{-3+x}\ \sqrt{5+x}\ \text{ArcSinh}\left[\frac{\sqrt{-3+x}}{2\ \sqrt{2}}\right]}{\sqrt{-(-3+x)\ (5+x)}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{\sqrt{(3-x)\ (5+x)}},\ x,\ 2,\ 0\right\}$$

$$-\text{ArcSin}\left[\frac{1}{4}\ (-1-x)\right]$$

$$\frac{2\ \sqrt{-3+x}\ \sqrt{5+x}\ \text{ArcSinh}\left[\frac{\sqrt{-3+x}}{2\ \sqrt{2}}\right]}{\sqrt{-(-3+x)\ (5+x)}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{\sqrt{-3-x}\ \sqrt{5+x}},\ x,\ 1,\ 0\right\}$$

$$\text{ArcSin}[4+x]$$

$$\frac{2\ \sqrt{3+x}\ \sqrt{5+x}\ \text{ArcSinh}\left[\frac{\sqrt{3+x}}{\sqrt{2}}\right]}{\sqrt{-(3+x)\ (5+x)}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{\sqrt{(-3-x)\ (5+x)}},\ x,\ 2,\ 0\right\}$$

$$\text{ArcSin}[4+x]$$

$$\frac{2\ \sqrt{3+x}\ \sqrt{5+x}\ \text{ArcSinh}\left[\frac{\sqrt{3+x}}{\sqrt{2}}\right]}{\sqrt{-(3+x)\ (5+x)}}$$

Valid but unnecessarily complicated antiderivative:

$\left\{\frac{1}{\sqrt{1-x}\ \sqrt{x}}, x, 1, 0\right\}$

$2\,\mathrm{ArcSin}\left[\sqrt{x}\right]$

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

Valid but unnecessarily complicated antiderivative:

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

$-\mathrm{ArcSin}[5-2x]$

$$\frac{2\sqrt{-3+x}\ \sqrt{-2+x}\ \mathrm{ArcSinh}\left[\sqrt{-3+x}\right]}{\sqrt{-(-3+x)\ (-2+x)}}$$

Valid but unnecessarily complicated antiderivative:

$\left\{\frac{1}{\sqrt{-1+x}\ \sqrt{1+x}}, x, 1, 0\right\}$

$\mathrm{ArcCosh}[x]$

$$2\,\mathrm{ArcSinh}\left[\frac{\sqrt{-1+x}}{\sqrt{2}}\right]$$

Valid but unnecessarily complicated antiderivative:

$\left\{\frac{(c+d\,x)^{5/4}}{(a+b\,x)^{1/4}}, x, 6, 0\right\}$

$$\frac{5\,(b\,c-a\,d)\,(a+b\,x)^{3/4}\,(c+d\,x)^{1/4}}{8\,b^2}+\frac{(a+b\,x)^{3/4}\,(c+d\,x)^{5/4}}{2\,b}-\frac{5\,(b\,c-a\,d)^2\,\mathrm{ArcTan}\left[\frac{d^{1/4}\,(a+b\,x)^{1/4}}{b^{1/4}\,(c+d\,x)^{1/4}}\right]}{16\,b^{9/4}\,d^{3/4}}+\frac{5\,(b\,c-a\,d)^2\,\mathrm{ArcTanh}\left[\frac{d^{1/4}\,(a+b\,x)^{1/4}}{b^{1/4}\,(c+d\,x)^{1/4}}\right]}{16\,b^{9/4}\,d^{3/4}}$$

$$\frac{(c+d\,x)^{1/4}\left(-d\,(a+b\,x)\,(-9\,b\,c+5\,a\,d-4\,b\,d\,x)+5\,(b\,c-a\,d)^2\left(\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right)^{1/4}\mathrm{Hypergeometric2F1}\left[\frac{1}{4},\frac{1}{4},\frac{5}{4},\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]\right)}{8\,b^2\,d\,(a+b\,x)^{1/4}}$$

Valid but unnecessarily complicated antiderivative:

$\left\{\frac{(c+d\,x)^{1/4}}{(a+b\,x)^{1/4}}, x, 5, 0\right\}$

$$\frac{(a+b\,x)^{3/4}\,(c+d\,x)^{1/4}}{b}-\frac{(b\,c-a\,d)\,\mathrm{ArcTan}\left[\frac{d^{1/4}\,(a+b\,x)^{1/4}}{b^{1/4}\,(c+d\,x)^{1/4}}\right]}{2\,b^{5/4}\,d^{3/4}}+\frac{(b\,c-a\,d)\,\mathrm{ArcTanh}\left[\frac{d^{1/4}\,(a+b\,x)^{1/4}}{b^{1/4}\,(c+d\,x)^{1/4}}\right]}{2\,b^{5/4}\,d^{3/4}}$$

$$\frac{(c+d\,x)^{1/4}\left(d\,(a+b\,x)+(b\,c-a\,d)\left(\frac{d\,(a+b\,x)}{-b\,c+a\,d}\right)^{1/4}\mathrm{Hypergeometric2F1}\left[\frac{1}{4},\frac{1}{4},\frac{5}{4},\frac{b\,(c+d\,x)}{b\,c-a\,d}\right]\right)}{b\,d\,(a+b\,x)^{1/4}}$$

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{4 \left(\frac{d (a+b x)}{-b c+a d}\right)^{1/4} (c+d x)^{1/4} \text{Hypergeometric2F1}\left[\frac{1}{4}, \frac{1}{4}, \frac{5}{4}, \frac{b (c+d x)}{b c-a d}\right]}{d (a+b x)^{1/4}}$$

Valid but unnecessarily complicated antiderivative:

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

$$-\frac{a \left(a+b \sqrt{x}\right)^8}{36 b^2}+\frac{2 \left(a+b \sqrt{x}\right)^8 \sqrt{x}}{9 b}$$

$$a^7 x+\frac{14}{3} a^6 b x^{3/2}+\frac{21}{2} a^5 b^2 x^2+14 a^4 b^3 x^{5/2}+\frac{35}{3} a^3 b^4 x^3+6 a^2 b^5 x^{7/2}+\frac{7}{4} a b^6 x^4+\frac{2}{9} b^7 x^{9/2}$$

Valid but unnecessarily complicated antiderivative:

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

$$-\frac{a \left(a+b \sqrt{x}\right)^9}{45 b^2}+\frac{\left(a+b \sqrt{x}\right)^9 \sqrt{x}}{5 b}$$

$$a^8 x+\frac{16}{3} a^7 b x^{3/2}+14 a^6 b^2 x^2+\frac{112}{5} a^5 b^3 x^{5/2}+\frac{70}{3} a^4 b^4 x^3+16 a^3 b^5 x^{7/2}+7 a^2 b^6 x^4+\frac{16}{9} a b^7 x^{9/2}+\frac{b^8 x^5}{5}$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{\text{ArcCosh}\left[\frac{b x}{4}\right]}{b}$$

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

Valid but unnecessarily complicated antiderivative:

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

$$2 \text{ArcSin}\left[\frac{\sqrt{x}}{2}\right]$$

$$\frac{2 \sqrt{-4+x} \sqrt{x} \text{Log}\left[2 \left(\sqrt{-4+x}+\sqrt{x}\right)\right]}{\sqrt{-(-4+x) x}}$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

$$-\text{ArcTan}\left[\sqrt{x}\right]+\text{ArcTanh}\left[\sqrt{x}\right]$$

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{\sqrt{1-x}+\sqrt{1+x}}{-\sqrt{1-x}+\sqrt{1+x}}, x, 8, 0\right\}$$

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

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

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

$$-\frac{3\ \left(\frac{a+b\ x}{b\ x}\right)^{1/3}\ \text{Hypergeometric2F1}\left[\frac{1}{3},\ \frac{1}{3},\ \frac{4}{3},\ -\frac{a}{b\ x}\right]}{(a+b\ x)^{1/3}}$$

Valid but unnecessarily complicated antiderivative:

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

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

$$\left(\frac{-1+x}{1+x}\right)^{1/3}\ \left(1+x-2^{2/3}\ (1+x)^{1/3}\ \text{Hypergeometric2F1}\left[\frac{1}{3},\ \frac{1}{3},\ \frac{4}{3},\ \frac{1-x}{2}\right]\right)$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{(-2+x)^{3/2}\ x^{3/2}\ \left(\text{ArcTan}\left[\frac{-2+\sqrt{x}}{\sqrt{-2+x}}\right]+\text{ArcTan}\left[\frac{2+\sqrt{x}}{\sqrt{-2+x}}\right]\right)}{2\ (-(-2+x)\ x)^{3/2}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{(2-2\ x)\ \left(2\ x-x^2\right)^{3/2}},\ x,\ 2,\ 0\right\}$$

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

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

Algebraic function problems involving binomials

Valid but unnecessarily complicated antiderivative:

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

$$-\text{EllipticF}[\text{ArcCos}[x],2]$$

$$\frac{\sqrt{1-2x^2}\ \text{EllipticF}[\text{ArcSin}[x],2]}{\sqrt{-1+2x^2}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a+b x^2\right)\sqrt{2+d x^2}\ \sqrt{3+f x^2},\ x,\ -5,\ 0\right\}$$

0

$$\frac{1}{15 d^{3/2} f^2}\Bigg(\sqrt{d}\ f x\sqrt{2+d x^2}\ \sqrt{3+f x^2}\ \left(5 a d f+b\left(2 f+3 d\left(1+f x^2\right)\right)\right)+$$
$$i\sqrt{3}\ \left(-5 a d f\,(3 d+2 f)+2 b\left(9 d^2-6 d f+4 f^2\right)\right)\text{EllipticE}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{d}\ x}{\sqrt{2}}\right],\frac{2 f}{3 d}\right]+$$
$$i\sqrt{3}\ (3 d-2 f)\,(-6 b d+2 b f+5 a d f)\,\text{EllipticF}\left[i\,\text{ArcSinh}\left[\frac{\sqrt{d}\ x}{\sqrt{2}}\right],\frac{2 f}{3 d}\right]\Bigg)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a+b x^2\right)\sqrt{c+d x^2}\ \sqrt{e+f x^2},\ x,\ -7,\ 0\right\}$$

0

$$\frac{1}{15 d\sqrt{\frac{d}{c}}\ f^2\sqrt{c+d x^2}\ \sqrt{e+f x^2}}\Bigg(\sqrt{\frac{d}{c}}\ f x\left(c+d x^2\right)\left(e+f x^2\right)\left(5 a d f+b\left(c f+d\left(e+3 f x^2\right)\right)\right)+$$
$$i e\left(-5 a d f\,(d e+c f)+2 b\left(d^2 e^2-c d e f+c^2 f^2\right)\right)\sqrt{1+\frac{d x^2}{c}}\ \sqrt{1+\frac{f x^2}{e}}\ \text{EllipticE}\left[i\,\text{ArcSinh}\left[\sqrt{\frac{d}{c}}\ x\right],\frac{c f}{d e}\right]-$$
$$i e\,(-d e+c f)\,(-2 b d e+b c f+5 a d f)\sqrt{1+\frac{d x^2}{c}}\ \sqrt{1+\frac{f x^2}{e}}\ \text{EllipticF}\left[i\,\text{ArcSinh}\left[\sqrt{\frac{d}{c}}\ x\right],\frac{c f}{d e}\right]\Bigg)$$

Valid but unnecessarily complicated antiderivative:

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

0

$$\frac{-3 x\sqrt{2-3x^2}\ \left(-7+12x^2+27x^4\right)-24\sqrt{3-9x^2}\ \text{EllipticE}\left[\text{ArcSin}\left[\sqrt{\frac{3}{2}}\ x\right],2\right]+10\sqrt{3-9x^2}\ \text{EllipticF}\left[\text{ArcSin}\left[\sqrt{\frac{3}{2}}\ x\right],2\right]}{405\sqrt{-1+3x^2}}$$

Incorrect antiderivative:

$$\left\{\frac{1}{\sqrt{-1+x}\,\sqrt{1+x}\,\sqrt{-1+2x^2}},\ x,\ -7,\ 0\right\}$$

$$-i\,\text{EllipticF}[i\,\text{ArcCosh}[x],\ 2]$$

$$-\frac{2\,(-1+x)^{3/2}\sqrt{\frac{1+x}{1-x}}\,\sqrt{\frac{1-2x^2}{(-1+x)^2}}\ \text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{2+\sqrt{2}+\frac{1}{-1+x}}}{2^{3/4}}\right],\ 4\left(-4+3\sqrt{2}\right)\right]}{\sqrt{3+2\sqrt{2}}\,\sqrt{1+x}\,\sqrt{-1+2x^2}}$$

Valid but unnecessarily complicated antiderivative:

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

$$\sqrt{1-x^2}+\text{ArcSin}[x]$$

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

Valid but unnecessarily complicated antiderivative:

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

$$\sqrt{1-x^2}-\text{ArcSin}[x]$$

$$\sqrt{1-x^2}\left(1+\frac{2\,\text{ArcSinh}\left[\frac{\sqrt{-1+x}}{\sqrt{2}}\right]}{\sqrt{-1+x}\,\sqrt{1+x}}\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x}{x-\sqrt{1-x^2}},\ x,\ 7,\ 0\right\}$$

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

$$\frac{1}{8}\left(4x+4\sqrt{1-x^2}+\sqrt{2}\,\text{Log}\left[\sqrt{2}-2x\right]-\sqrt{2}\,\text{Log}\left[\sqrt{2}+2x\right]+\sqrt{2}\,\text{Log}\left[2-2\sqrt{2}\,x\right]+\right.$$
$$\left.\sqrt{2}\,\text{Log}\left[2+2\sqrt{2}\,x\right]-\sqrt{2}\,\text{Log}\left[-8\left(2-\sqrt{2}\,x+\sqrt{2-2x^2}\right)\right]-\sqrt{2}\,\text{Log}\left[8\left(2+\sqrt{2}\,x+\sqrt{2-2x^2}\right)\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x}{x-\sqrt{1+2x^2}},\ x,\ 7,\ 0\right\}$$

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

$$\frac{1}{4}\left(-4x-4\sqrt{1+2x^2}+4\,\mathrm{ArcTan}[x]-4\,\mathrm{ArcTan}\left[\frac{1}{\sqrt{1+2x^2}}\right]+\right.$$
$$\left.2\,i\,\mathrm{Log}\left[1+x^2\right]-i\,\mathrm{Log}\left[32+96x^2-64x\sqrt{1+2x^2}\right]-i\,\mathrm{Log}\left[32\left(1+3x^2+2x\sqrt{1+2x^2}\right)\right]\right)$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{4x}{3}-\frac{1}{3}\sqrt{-1+4x^2}-\frac{\mathrm{ArcTanh}\left[\sqrt{3}\,x\right]}{3\sqrt{3}}+\frac{\mathrm{ArcTanh}\left[\sqrt{3}\,\sqrt{-1+4x^2}\right]}{3\sqrt{3}}$$

$$\frac{1}{18}\left(24x-6\sqrt{-1+4x^2}+\sqrt{3}\,\mathrm{Log}\left[\sqrt{3}-3x\right]-\sqrt{3}\,\mathrm{Log}\left[\sqrt{3}+3x\right]-\sqrt{3}\,\mathrm{Log}\left[3-3\sqrt{3}\,x\right]-\right.$$
$$\left.\sqrt{3}\,\mathrm{Log}\left[3+3\sqrt{3}\,x\right]+\sqrt{3}\,\mathrm{Log}\left[54+72\sqrt{3}\,x-18\sqrt{-3+12x^2}\right]+\sqrt{3}\,\mathrm{Log}\left[18\left(-3+4\sqrt{3}\,x+\sqrt{-3+12x^2}\right)\right]\right)$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x}{\left(1-x^3\right)^{2/3}},\ x,\ 5,\ 0\right\}$$

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

$$\frac{1}{2}x^2\,\mathrm{Hypergeometric2F1}\left[\frac{2}{3},\frac{2}{3},\frac{5}{3},x^3\right]$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{1}{3}x^2\left(1-x^3\right)^{1/3}-\frac{\mathrm{ArcTan}\left[\frac{1-\frac{2x}{\left(1-x^3\right)^{1/3}}}{\sqrt{3}}\right]}{3\sqrt{3}}+\frac{1}{18}\,\mathrm{Log}\left[1+\frac{x^2}{\left(1-x^3\right)^{2/3}}-\frac{x}{\left(1-x^3\right)^{1/3}}\right]-\frac{1}{9}\,\mathrm{Log}\left[1+\frac{x}{\left(1-x^3\right)^{1/3}}\right]$$

$$\frac{1}{6}x^2\left(2\left(1-x^3\right)^{1/3}+\mathrm{Hypergeometric2F1}\left[\frac{2}{3},\frac{2}{3},\frac{5}{3},x^3\right]\right)$$

Unable to integrate:

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

$$\frac{\text{ArcTanh}\left[\frac{\sqrt{2}\,\sqrt{b}\,x}{\sqrt{b\,x^2+\sqrt{a+b^2\,x^4}}}\right]}{\sqrt{2}\,\sqrt{b}}$$

$$\int\frac{\sqrt{b\,x^2+\sqrt{a+b^2\,x^4}}}{\sqrt{a+b^2\,x^4}}\,dx$$

Unable to integrate:

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

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

$$\int\frac{\sqrt{-b\,x^2+\sqrt{a+b^2\,x^4}}}{\sqrt{a+b^2\,x^4}}\,dx$$

Unable to integrate:

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

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

$$\int\frac{\sqrt{2\,x^2+\sqrt{3+4\,x^4}}}{(c+d\,x)\,\sqrt{3+4\,x^4}}\,dx$$

Unable to integrate:

$$\left\{\frac{\sqrt{2\,x^2+\sqrt{3+4\,x^4}}}{(c+d\,x)^2\,\sqrt{3+4\,x^4}},\ x,\ 5,\ 0\right\}$$

$$\frac{\left(\frac{1}{2}-\frac{i}{2}\right) d \sqrt{\sqrt{3}-2 i x^2}}{\left(2 i c^2-\sqrt{3} d^2\right) (c+d x)}-\frac{\left(\frac{1}{2}+\frac{i}{2}\right) d \sqrt{\sqrt{3}+2 i x^2}}{\left(2 i c^2+\sqrt{3} d^2\right) (c+d x)}+$$

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

$$\int \frac{\sqrt{2 x^2+\sqrt{3+4 x^4}}}{(c+d x)^2 \sqrt{3+4 x^4}}\, dx$$

Unable to integrate:

$$\left\{\frac{x^{23/2}}{\sqrt{1+x^5}},\ x,\ 5,\ 0\right\}$$

$$-\frac{3}{20} x^{5/2} \sqrt{1+x^5}+\frac{1}{10} x^{15/2} \sqrt{1+x^5}+\frac{3}{20} \text{ArcSinh}\left[x^{5/2}\right]$$

$$\int \frac{x^{23/2}}{\sqrt{1+x^5}}\, dx$$

Unable to integrate:

$$\left\{\frac{x^{13/2}}{\sqrt{1+x^5}},\ x,\ 4,\ 0\right\}$$

$$\frac{1}{5} x^{5/2} \sqrt{1+x^5}-\frac{1}{5} \text{ArcSinh}\left[x^{5/2}\right]$$

$$\int \frac{x^{13/2}}{\sqrt{1+x^5}}\, dx$$

Unable to integrate:

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

$$\frac{2}{5} \text{ArcSinh}\left[x^{5/2}\right]$$

$$\int \frac{x^{3/2}}{\sqrt{1+x^5}}\, dx$$

Unable to integrate:

$$\left\{\frac{x^{23/2}}{\sqrt{a+b x^5}},\ x,\ 5,\ 0\right\}$$

$$-\frac{3 a x^{5/2} \sqrt{a+b x^5}}{20 b^2}+\frac{x^{15/2} \sqrt{a+b x^5}}{10 b}+\frac{3 a^2 \text{ArcTanh}\left[\frac{\sqrt{b}\, x^{5/2}}{\sqrt{a+b x^5}}\right]}{20 b^{5/2}}$$

$$\int \frac{x^{23/2}}{\sqrt{a + b x^5}} \, dx$$

Unable to integrate:

$$\left\{\frac{x^{13/2}}{\sqrt{a + b x^5}}, x, 4, 0\right\}$$

$$\frac{x^{5/2} \sqrt{a + b x^5}}{5 b} - \frac{a \operatorname{ArcTanh}\left[\frac{\sqrt{b} \, x^{5/2}}{\sqrt{a+b x^5}}\right]}{5 b^{3/2}}$$

$$\int \frac{x^{13/2}}{\sqrt{a + b x^5}} \, dx$$

Unable to integrate:

$$\left\{\frac{x^{3/2}}{\sqrt{a + b x^5}}, x, 2, 0\right\}$$

$$\frac{2 \operatorname{ArcTanh}\left[\frac{\sqrt{b} \, x^{5/2}}{\sqrt{a+b x^5}}\right]}{5 \sqrt{b}}$$

$$\int \frac{x^{3/2}}{\sqrt{a + b x^5}} \, dx$$

Unable to integrate:

$$\left\{\frac{\sqrt{x^{23}}}{\sqrt{1 + x^5}}, x, 6, 0\right\}$$

$$-\frac{\sqrt{x^{23}} \left(3 x^{5/2} \sqrt{1 + x^5} - 2 x^{15/2} \sqrt{1 + x^5} - 3 \operatorname{ArcSinh}\left[x^{5/2}\right]\right)}{20 x^{23/2}}$$

$$\int \frac{\sqrt{x^{23}}}{\sqrt{1 + x^5}} \, dx$$

Unable to integrate:

$$\left\{\frac{\sqrt{x^{13}}}{\sqrt{1 + x^5}}, x, 5, 0\right\}$$

$$\frac{\sqrt{x^{13}} \left(x^{5/2} \sqrt{1 + x^5} - \operatorname{ArcSinh}\left[x^{5/2}\right]\right)}{5 x^{13/2}}$$

$$\int \frac{\sqrt{x^{13}}}{\sqrt{1 + x^5}} \, dx$$

Unable to integrate:

$$\left\{\frac{\sqrt{x^3}}{\sqrt{1+x^5}},\ x,\ 3,\ 0\right\}$$

$$\frac{2\sqrt{x^3}\ \text{ArcSinh}\left[x^{5/2}\right]}{5\,x^{3/2}}$$

$$\int\frac{\sqrt{x^3}}{\sqrt{1+x^5}}\,dx$$

Incorrect antiderivative:

$$\left\{\frac{x^{1/3}}{1-x^6},\ x,\ 13,\ 0\right\}$$

$$-\frac{\text{ArcTan}\left[\frac{1+2x^{2/3}}{\sqrt{3}}\right]}{2\sqrt{3}}-\frac{1}{3}\text{ArcTan}\left[\left(x^{2/3}+\text{Cos}\left[\frac{\pi}{9}\right]\right)\text{Csc}\left[\frac{\pi}{9}\right]\right]\left(1-\text{Cos}\left[\frac{2\pi}{9}\right]\right)\text{Cot}\left[\frac{\pi}{9}\right]-$$
$$\frac{1}{6}\text{Log}\left[1-x^{2/3}\right]+\frac{1}{12}\text{Log}\left[1+x^{2/3}+x^{4/3}\right]-\frac{1}{6}\text{Cos}\left[\frac{2\pi}{9}\right]\text{Log}\left[1+x^{4/3}+2x^{2/3}\text{Cos}\left[\frac{\pi}{9}\right]\right]+$$
$$\frac{1}{6}\text{Cos}\left[\frac{\pi}{9}\right]\text{Log}\left[1+x^{4/3}-2x^{2/3}\text{Sin}\left[\frac{\pi}{18}\right]\right]+\frac{1}{3}\text{ArcTan}\left[\left(x^{2/3}-\text{Cos}\left[\frac{2\pi}{9}\right]\right)\text{Csc}\left[\frac{2\pi}{9}\right]\right]\text{Cot}\left[\frac{2\pi}{9}\right]\left(1-\text{Sin}\left[\frac{\pi}{18}\right]\right)-$$
$$\frac{1}{6}\text{Log}\left[1+x^{4/3}-2x^{2/3}\text{Cos}\left[\frac{2\pi}{9}\right]\right]\text{Sin}\left[\frac{\pi}{18}\right]+\frac{1}{3}\text{ArcTan}\left[\text{Sec}\left[\frac{\pi}{18}\right]\left(x^{2/3}-\text{Sin}\left[\frac{\pi}{18}\right]\right)\right]\left(1+\text{Cos}\left[\frac{\pi}{9}\right]\right)\text{Tan}\left[\frac{\pi}{18}\right]$$

$$\frac{1}{12}\left(-2\sqrt{3}\ \text{ArcTan}\left[\frac{-1+2x^{1/3}}{\sqrt{3}}\right]+2\sqrt{3}\ \text{ArcTan}\left[\frac{1+2x^{1/3}}{\sqrt{3}}\right]-4\,\text{ArcTan}\left[\text{Cot}\left[\frac{\pi}{9}\right]-x^{1/3}\text{Csc}\left[\frac{\pi}{9}\right]\right]\text{Cos}\left[\frac{\pi}{18}\right]-\right.$$
$$4\,\text{ArcTan}\left[\text{Cot}\left[\frac{\pi}{9}\right]+x^{1/3}\text{Csc}\left[\frac{\pi}{9}\right]\right]\text{Cos}\left[\frac{\pi}{18}\right]-2\,\text{Log}\left[-1+x^{1/3}\right]-2\,\text{Log}\left[1+x^{1/3}\right]+\text{Log}\left[1-x^{1/3}+x^{2/3}\right]+\text{Log}\left[1+x^{1/3}+x^{2/3}\right]+$$
$$2\,\text{Cos}\left[\frac{\pi}{9}\right]\text{Log}\left[1+x^{2/3}-2x^{1/3}\text{Cos}\left[\frac{2\pi}{9}\right]\right]+2\,\text{Cos}\left[\frac{\pi}{9}\right]\text{Log}\left[1+x^{2/3}+2x^{1/3}\text{Cos}\left[\frac{2\pi}{9}\right]\right]-2\,\text{Cos}\left[\frac{2\pi}{9}\right]\text{Log}\left[1+x^{2/3}-2x^{1/3}\text{Sin}\left[\frac{\pi}{18}\right]\right]-$$
$$2\,\text{Cos}\left[\frac{2\pi}{9}\right]\text{Log}\left[1+x^{2/3}+2x^{1/3}\text{Sin}\left[\frac{\pi}{18}\right]\right]-2\,\text{Log}\left[1+x^{2/3}-2x^{1/3}\text{Cos}\left[\frac{\pi}{9}\right]\right]\text{Sin}\left[\frac{\pi}{18}\right]-2\,\text{Log}\left[1+x^{2/3}+2x^{1/3}\text{Cos}\left[\frac{\pi}{9}\right]\right]\text{Sin}\left[\frac{\pi}{18}\right]+$$
$$4\,\text{ArcTan}\left[\left(x^{1/3}-\text{Cos}\left[\frac{2\pi}{9}\right]\right)\text{Csc}\left[\frac{2\pi}{9}\right]\right]\text{Sin}\left[\frac{\pi}{9}\right]-4\,\text{ArcTan}\left[\left(x^{1/3}+\text{Cos}\left[\frac{2\pi}{9}\right]\right)\text{Csc}\left[\frac{2\pi}{9}\right]\right]\text{Sin}\left[\frac{\pi}{9}\right]-$$
$$\left.4\,\text{ArcTan}\left[x^{1/3}\text{Sec}\left[\frac{\pi}{18}\right]-\text{Tan}\left[\frac{\pi}{18}\right]\right]\text{Sin}\left[\frac{2\pi}{9}\right]+4\,\text{ArcTan}\left[x^{1/3}\text{Sec}\left[\frac{\pi}{18}\right]+\text{Tan}\left[\frac{\pi}{18}\right]\right]\text{Sin}\left[\frac{2\pi}{9}\right]\right)$$

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{\sqrt{a+\frac{b}{x^2}}\ x\ \text{Log}\left[2\left(a\,x+\sqrt{a}\ \sqrt{b+a\,x^2}\right)\right]}{\sqrt{a}\ \sqrt{b+a\,x^2}}$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

$$-\frac{\text{ArcSinh}\left[\frac{\sqrt{b}}{\sqrt{2}\;x}\right]}{\sqrt{b}}$$

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{\sqrt{2-\frac{b}{x^2}}\;x^2},\;x,\;2,\;0\right\}$$

$$-\frac{\text{ArcSin}\left[\frac{\sqrt{b}}{\sqrt{2}\;x}\right]}{\sqrt{b}}$$

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{\sqrt{2+\frac{b}{x^2}}}{b+2 x^2}, x, 3, 0\right\}$$

$$-\frac{\text{ArcSinh}\left[\frac{\sqrt{b}}{\sqrt{2}\, x}\right]}{\sqrt{b}}$$

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

Valid but unnecessarily complicated antiderivative:

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

$$-\frac{\text{ArcSin}\left[\frac{\sqrt{b}}{\sqrt{2}\, x}\right]}{\sqrt{b}}$$

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{-1+x^2}{\sqrt{a-b+\frac{b}{x^2}}\, x^3}, x, 5, 0\right\}$$

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

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Unable to integrate:

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

$$\frac{2\,\text{ArcTanh}\left[\frac{\sqrt{a+\frac{b}{x^5}}}{\sqrt{a}}\right]}{5\sqrt{a}}$$

$$\int\frac{1}{\sqrt{a+\frac{b}{x^5}}\;x}\,dx$$

Unable to integrate:

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

$$-\frac{2\,\text{ArcTan}\left[\frac{\sqrt{-a+\frac{b}{x^5}}}{\sqrt{a}}\right]}{5\sqrt{a}}$$

$$\int\frac{1}{\sqrt{-a+\frac{b}{x^5}}\;x}\,dx$$

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{2\sqrt{x}\;\sqrt{a+b\,x}\;\text{Log}\left[2\left(b\sqrt{x}+\sqrt{b}\;\sqrt{a+b\,x}\right)\right]}{\sqrt{b}\;\sqrt{x\,(a+b\,x)}}$$

Valid but unnecessarily complicated antiderivative:

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

$$-\text{ArcSin}\left[\frac{3-x}{3}\right]$$

$$\frac{2\sqrt{-6+x}\;\sqrt{x}\;\text{Log}\left[2\left(\sqrt{-6+x}+\sqrt{x}\right)\right]}{\sqrt{-(-6+x)\,x}}$$

Valid but unnecessarily complicated antiderivative:

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

$$-\text{ArcSin}[1-2\,x]$$

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

Valid but unnecessarily complicated antiderivative:

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

$$2\,\text{ArcTanh}\left[\frac{x}{\sqrt{4\,x+x^2}}\right]$$

$$\frac{2\,\sqrt{x}\,\sqrt{4+x}\,\text{ArcSinh}\left[\frac{\sqrt{x}}{2}\right]}{\sqrt{x\,(4+x)}}$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\sqrt{5\,x-9\,x^2},\ x,\ 2,\ 0\right\}$$

$$-\frac{1}{36}\,(5-18\,x)\,\sqrt{5\,x-9\,x^2}-\frac{25}{216}\,\text{ArcSin}\left[\frac{1}{5}\,(5-18\,x)\right]$$

$$\frac{\sqrt{-x\,(-5+9\,x)}\,\left(3\,\sqrt{x}\,\sqrt{-5+9\,x}\,(-5+18\,x)-25\,\text{Log}\left[2\,\left(3\,\sqrt{x}+\sqrt{-5+9\,x}\right)\right]\right)}{108\,\sqrt{x}\,\sqrt{-5+9\,x}}$$

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{2\,\sqrt{x}\,\sqrt{a+b\,x}\,\text{Log}\left[2\,\left(b\,\sqrt{x}+\sqrt{b}\,\sqrt{a+b\,x}\right)\right]}{\sqrt{b}\,\sqrt{x\,(a+b\,x)}}$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{2\,\text{ArcTanh}\left[\frac{\sqrt{b}\,x}{\sqrt{x\,(a+b\,x)}}\right]}{\sqrt{b}}$$

$$\frac{2\,\sqrt{x}\,\sqrt{a+b\,x}\,\text{Log}\left[2\,\left(b\,\sqrt{x}+\sqrt{b}\,\sqrt{a+b\,x}\right)\right]}{\sqrt{b}\,\sqrt{x\,(a+b\,x)}}$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{2\,\text{ArcTanh}\left[\frac{\sqrt{b}\,x}{\sqrt{x\,(a+b\,x)}}\right]}{\sqrt{b}}$$

$$\frac{2\,\sqrt{x}\,\sqrt{a+b\,x}\,\text{Log}\left[2\,\left(b\,\sqrt{x}+\sqrt{b}\,\sqrt{a+b\,x}\right)\right]}{\sqrt{b}\,\sqrt{x\,(a+b\,x)}}$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Unable to integrate:

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

$$\frac{2\,\text{ArcTanh}\left[\frac{\sqrt{b}\,x}{\sqrt{\frac{a+b\,x^5}{x^3}}}\right]}{5\,\sqrt{b}}$$

$$\int\frac{1}{\sqrt{\frac{a+b\,x^5}{x^3}}}\,dx$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

$$\frac{2\,\text{ArcTan}\left[\frac{\sqrt{b}\,x}{\sqrt{\frac{a-b\,x^3}{x}}}\right]}{3\,\sqrt{b}}$$

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

Unable to integrate:

$$\left\{\frac{1}{\sqrt{\frac{a-b\,x^5}{x^3}}},\ x,\ 2,\ 0\right\}$$

$$\frac{2\,\text{ArcTan}\left[\frac{\sqrt{b}\,x}{\sqrt{\frac{a-b\,x^5}{x^3}}}\right]}{5\,\sqrt{b}}$$

$$\int\frac{1}{\sqrt{\frac{a-b\,x^5}{x^3}}}\,dx$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

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

$$-\frac{2\,\sqrt{a}\,x^{n/2}\,\sqrt{1+\frac{b\,x^{2-n}}{a}}\,\text{ArcSinh}\left[\frac{\sqrt{b}\,x^{1-\frac{n}{2}}}{\sqrt{a}}\right]}{\sqrt{b}\,(-2+n)\,\sqrt{b\,x^2+a\,x^n}}$$

Valid but unnecessarily complicated antiderivative:

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

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

$$-\frac{2\,\sqrt{a}\,x^{n/2}\,\sqrt{1+\frac{b\,x^{2-n}}{a}}\,\text{ArcSinh}\left[\frac{\sqrt{b}\,x^{1-\frac{n}{2}}}{\sqrt{a}}\right]}{\sqrt{b}\,(-2+n)\,\sqrt{b\,x^2+a\,x^n}}$$

Valid but unnecessarily complicated antiderivative:

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

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

$$-\frac{2\,\sqrt{a}\,x^{n/2}\,\sqrt{1+\frac{b\,x^{2-n}}{a}}\,\text{ArcSinh}\left[\frac{\sqrt{b}\,x^{1-\frac{n}{2}}}{\sqrt{a}}\right]}{\sqrt{b}\,(-2+n)\,\sqrt{b\,x^2+a\,x^n}}$$

Valid but unnecessarily complicated antiderivative:

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

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

$$-\frac{2\,\sqrt{a}\,x^{n/2}\,\sqrt{1+\frac{b\,x^{2-n}}{a}}\,\text{ArcSinh}\left[\frac{\sqrt{b}\,x^{1-\frac{n}{2}}}{\sqrt{a}}\right]}{\sqrt{b}\,(-2+n)\,\sqrt{b\,x^2+a\,x^n}}$$

Unable to integrate:

$$\left\{\frac{1}{\sqrt{\frac{6}{x^3}-x^2}},\ x,\ 2,\ 0\right\}$$

$$\frac{2}{5}\,\text{ArcTan}\left[\frac{x}{\sqrt{\frac{6-x^5}{x^3}}}\right]$$

$$\int \frac{1}{\sqrt{\frac{6}{x^3}-x^2}}\,dx$$

Unable to integrate:

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

$$\frac{x\,\text{ArcTan}\left[\left(x^3\right)^{1/3}\right]}{\left(x^3\right)^{1/3}}$$

$$\int \frac{1}{1+\left(x^3\right)^{2/3}}\,dx$$

Unable to integrate:

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

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

$$\int \frac{1}{1+\left(x^2\right)^{3/2}}\,dx$$

Unable to integrate:

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

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

$$\int \frac{1}{1+4\sqrt{x^4}}\,dx$$

Unable to integrate:

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

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

$$\int \frac{1}{1-4\sqrt{x^4}}\,dx$$

Incorrect antiderivative:

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

$$\frac{x\,\mathrm{ArcTan}\left[2\left(x^6\right)^{1/6}\right]}{2\left(x^6\right)^{1/6}}$$

$$\frac{1}{24\left(-x^6\right)^{5/6}}\left(-2\,x\left(-x^{12}\right)^{1/3}\mathrm{Beta}\left[-64\,x^6,\ \frac{1}{2},\ 0\right]+2\,x\left(x^6\right)^{2/3}\mathrm{Beta}\left[-64\,x^6,\ \frac{5}{6},\ 0\right]+\left(-x^6\right)^{5/6}\right.$$
$$\left.\left(-2\,\mathrm{ArcTan}\left[\sqrt{3}-4\,x\right]+4\,\mathrm{ArcTan}[2\,x]+2\,\mathrm{ArcTan}\left[\sqrt{3}+4\,x\right]-\sqrt{3}\,\mathrm{Log}\left[1-2\sqrt{3}\,x+4\,x^2\right]+\sqrt{3}\,\mathrm{Log}\left[1+2\sqrt{3}\,x+4\,x^2\right]\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{1-4\left(x^6\right)^{1/3}},\ x,\ 2,\ 0\right\}$$

$$\frac{x\,\mathrm{ArcTanh}\left[2\left(x^6\right)^{1/6}\right]}{2\left(x^6\right)^{1/6}}$$

$$\frac{1}{24\left(x^6\right)^{1/6}}\left(2\,x\,\mathrm{Beta}\left[64\,x^6,\ \frac{1}{2},\ 0\right]+2\,x\,\mathrm{Beta}\left[64\,x^6,\ \frac{5}{6},\ 0\right]+\left(x^6\right)^{1/6}\right.$$
$$\left.\left(2\sqrt{3}\,\mathrm{ArcTan}\left[\frac{-1+4\,x}{\sqrt{3}}\right]+2\sqrt{3}\,\mathrm{ArcTan}\left[\frac{1+4\,x}{\sqrt{3}}\right]-2\,\mathrm{Log}[-1+2\,x]+2\,\mathrm{Log}[1+2\,x]-\mathrm{Log}\left[1-2\,x+4\,x^2\right]+\mathrm{Log}\left[1+2\,x+4\,x^2\right]\right)\right)$$

Unable to integrate:

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

$$\frac{1}{2}\,x\left(x^{2\,n}\right)^{-\frac{1}{2\,n}}\mathrm{ArcTan}\left[2\left(x^{2\,n}\right)^{\frac{1}{2\,n}}\right]$$

$$\int \frac{1}{1+4\left(x^{2\,n}\right)^{\frac{1}{n}}}\,dx$$

Unable to integrate:

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

$$\frac{1}{2}\,x\left(x^{2\,n}\right)^{-\frac{1}{2\,n}}\mathrm{ArcTanh}\left[2\left(x^{2\,n}\right)^{\frac{1}{2\,n}}\right]$$

$$\int \frac{1}{1-4\left(x^{2\,n}\right)^{\frac{1}{n}}}\,dx$$

Unable to integrate:

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

$$\frac{x\,(c\,x^m)^{-1/m}\,\mathrm{Log}\left[a+b\,(c\,x^m)^{\frac{1}{m}}\right]}{b}$$

$$\int\frac{1}{a+b\,(c\,x^m)^{\frac{1}{m}}}\,dx$$

Unable to integrate:

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

$$\frac{x\,(c\,x^m)^{-1/m}\,\mathrm{ArcTan}\left[\frac{\sqrt{b}\,(c\,x^m)^{\frac{1}{m}}}{\sqrt{a}}\right]}{\sqrt{a}\,\sqrt{b}}$$

$$\int\frac{1}{a+b\,(c\,x^m)^{2/m}}\,dx$$

Unable to integrate:

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

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

$$\int\frac{1}{\left(a+b\,(c\,x^m)^{2/m}\right)^2}\,dx$$

Unable to integrate:

$$\left\{\frac{1}{\left(a+b\,(c\,x^m)^{2/m}\right)^3},\ x,\ 4,\ 0\right\}$$

$$\frac{x}{4\,a\,\left(a+b\,(c\,x^m)^{2/m}\right)^2}+\frac{3\,x}{8\,a^2\,\left(a+b\,(c\,x^m)^{2/m}\right)}+\frac{3\,x\,(c\,x^m)^{-1/m}\,\mathrm{ArcTan}\left[\frac{\sqrt{b}\,(c\,x^m)^{\frac{1}{m}}}{\sqrt{a}}\right]}{8\,a^{5/2}\,\sqrt{b}}$$

$$\int\frac{1}{\left(a+b\,(c\,x^m)^{2/m}\right)^3}\,dx$$

Unable to integrate:

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

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

$$\int \frac{1}{a+b\,(c\,x^m)^{3/m}}\,dx$$

Unable to integrate:

$$\left\{\frac{1}{\left(a+b\,(c\,x^m)^{3/m}\right)^2},\ x,\ 6,\ 0\right\}$$

$$\frac{x}{3\,a\,\left(a+b\,(c\,x^m)^{3/m}\right)}-\frac{2\,x\,(c\,x^m)^{-1/m}\,\mathrm{ArcTan}\left[\frac{a^{1/3}-2\,b^{1/3}\,(c\,x^m)^{\frac{1}{m}}}{\sqrt{3}\,a^{1/3}}\right]}{3\,\sqrt{3}\,a^{5/3}\,b^{1/3}}+$$
$$\frac{2\,x\,(c\,x^m)^{-1/m}\,\mathrm{Log}\left[a^{1/3}+b^{1/3}\,(c\,x^m)^{\frac{1}{m}}\right]}{9\,a^{5/3}\,b^{1/3}}-\frac{x\,(c\,x^m)^{-1/m}\,\mathrm{Log}\left[a^{2/3}-a^{1/3}\,b^{1/3}\,(c\,x^m)^{\frac{1}{m}}+b^{2/3}\,(c\,x^m)^{2/m}\right]}{9\,a^{5/3}\,b^{1/3}}$$

$$\int \frac{1}{\left(a+b\,(c\,x^m)^{3/m}\right)^2}\,dx$$

Unable to integrate:

$$\left\{\frac{1}{\left(a+b\,(c\,x^m)^{3/m}\right)^3},\ x,\ 7,\ 0\right\}$$

$$\frac{x}{6\,a\,\left(a+b\,(c\,x^m)^{3/m}\right)^2}+\frac{5\,x}{18\,a^2\,\left(a+b\,(c\,x^m)^{3/m}\right)}-\frac{5\,x\,(c\,x^m)^{-1/m}\,\mathrm{ArcTan}\left[\frac{a^{1/3}-2\,b^{1/3}\,(c\,x^m)^{\frac{1}{m}}}{\sqrt{3}\,a^{1/3}}\right]}{9\,\sqrt{3}\,a^{8/3}\,b^{1/3}}+$$
$$\frac{5\,x\,(c\,x^m)^{-1/m}\,\mathrm{Log}\left[a^{1/3}+b^{1/3}\,(c\,x^m)^{\frac{1}{m}}\right]}{27\,a^{8/3}\,b^{1/3}}-\frac{5\,x\,(c\,x^m)^{-1/m}\,\mathrm{Log}\left[a^{2/3}-a^{1/3}\,b^{1/3}\,(c\,x^m)^{\frac{1}{m}}+b^{2/3}\,(c\,x^m)^{2/m}\right]}{54\,a^{8/3}\,b^{1/3}}$$

$$\int \frac{1}{\left(a+b\,(c\,x^m)^{3/m}\right)^3}\,dx$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

$$x^{2+m}\,\sqrt{a+b\,x^2}$$

$$\frac{x^{2+m}\,\sqrt{a+b\,x^2}\,\left((3+m)\,\mathrm{Hypergeometric2F1}\left[-\frac{1}{2},1+\frac{m}{2},2+\frac{m}{2},-\frac{b\,x^2}{a}\right]-\mathrm{Hypergeometric2F1}\left[\frac{1}{2},1+\frac{m}{2},2+\frac{m}{2},-\frac{b\,x^2}{a}\right]\right)}{(2+m)\,\sqrt{1+\frac{b\,x^2}{a}}}$$

Valid but unnecessarily complicated antiderivative:

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

$$x^{2+m}\,\sqrt{a+b\,x^2}$$

$$\frac{x^{2+m}\,\sqrt{a+b\,x^2}\,\left((3+m)\,\text{Hypergeometric2F1}\left[-\frac{1}{2},\,1+\frac{m}{2},\,2+\frac{m}{2},\,-\frac{b\,x^2}{a}\right]-\text{Hypergeometric2F1}\left[\frac{1}{2},\,1+\frac{m}{2},\,2+\frac{m}{2},\,-\frac{b\,x^2}{a}\right]\right)}{(2+m)\,\sqrt{1+\frac{b\,x^2}{a}}}$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{x^m}{\sqrt{a+b\,x}}$$

$$\frac{1}{2\,a^2\,(1+m)\,\sqrt{1+\frac{b\,x}{a}}}x^m\,\sqrt{a+b\,x}\,\left(2\,a\,(1+m)\,\text{Hypergeometric2F1}\left[-\frac{1}{2},\,m,\,1+m,\,-\frac{b\,x}{a}\right]-\right.$$
$$\left.b\,x\,\left(2\,m\,\text{Hypergeometric2F1}\left[\frac{1}{2},\,1+m,\,2+m,\,-\frac{b\,x}{a}\right]+\text{Hypergeometric2F1}\left[\frac{3}{2},\,1+m,\,2+m,\,-\frac{b\,x}{a}\right]\right)\right)$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{x^m}{\sqrt{a+b\,x^2}}$$

$$\frac{1}{a^2\,(2+m)\,\sqrt{1+\frac{b\,x^2}{a}}}x^m\,\sqrt{a+b\,x^2}\,\left(a\,(2+m)\,\text{Hypergeometric2F1}\left[-\frac{1}{2},\,\frac{m}{2},\,1+\frac{m}{2},\,-\frac{b\,x^2}{a}\right]-\right.$$
$$\left.b\,x^2\,\left(m\,\text{Hypergeometric2F1}\left[\frac{1}{2},\,1+\frac{m}{2},\,2+\frac{m}{2},\,-\frac{b\,x^2}{a}\right]+\text{Hypergeometric2F1}\left[\frac{3}{2},\,1+\frac{m}{2},\,2+\frac{m}{2},\,-\frac{b\,x^2}{a}\right]\right)\right)$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{x^m}{\sqrt{a+b\,x}}$$

$$\frac{1}{2\,a^2\,(1+m)\,\sqrt{1+\frac{b\,x}{a}}}x^m\,\sqrt{a+b\,x}\,\left(2\,a\,(1+m)\,\text{Hypergeometric2F1}\left[-\frac{1}{2},\,m,\,1+m,\,-\frac{b\,x}{a}\right]-\right.$$
$$\left.b\,x\,\left(2\,m\,\text{Hypergeometric2F1}\left[\frac{1}{2},\,1+m,\,2+m,\,-\frac{b\,x}{a}\right]+\text{Hypergeometric2F1}\left[\frac{3}{2},\,1+m,\,2+m,\,-\frac{b\,x}{a}\right]\right)\right)$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{x^m}{\sqrt{a+b\,x^2}}$$

$$\frac{1}{a^2\,(2+m)\,\sqrt{1+\frac{b\,x^2}{a}}}x^m\,\sqrt{a+b\,x^2}\,\left(a\,(2+m)\,\text{Hypergeometric2F1}\left[-\frac{1}{2},\ \frac{m}{2},\ 1+\frac{m}{2},\ -\frac{b\,x^2}{a}\right]-\right.$$
$$\left.b\,x^2\,\left(m\,\text{Hypergeometric2F1}\left[\frac{1}{2},\ 1+\frac{m}{2},\ 2+\frac{m}{2},\ -\frac{b\,x^2}{a}\right]+\text{Hypergeometric2F1}\left[\frac{3}{2},\ 1+\frac{m}{2},\ 2+\frac{m}{2},\ -\frac{b\,x^2}{a}\right]\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{x^n\,\sqrt{a^2+x^{1+n}},\ x,\ 2,\ 0\right\}$$

$$\frac{2\,\left(a^2+x^{1+n}\right)^{3/2}}{3\,(1+n)}$$

$$\frac{2\,\left(2\,a^2\,x^{1+n}+x^{2+2\,n}+a^4\,\left(1-\sqrt{1+\frac{x^{1+n}}{a^2}}\right)\right)}{3\,(1+n)\,\sqrt{a^2+x^{1+n}}}$$

Algebraic function problems involving trinomials

Valid but unnecessarily complicated antiderivative:

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

$$-\frac{\text{ArcSin}[1-2\,b\,x]}{b}$$

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

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{1}{8}\Bigg(4\,\text{ArcSin}[2+x]-4\sqrt{2}\,\text{ArcTan}\left[\sqrt{2}\,(1+x)\right]+$$

$$2\sqrt{1-2\,i\sqrt{2}}\,\text{ArcTan}\Big[\Big(60+51\,i\sqrt{2}+\left(-16+6\,i\sqrt{2}\right)x^4+54\,i\sqrt{1-2\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}+$$

$$x\left(68+176\,i\sqrt{2}+99\,i\sqrt{1-2\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}\right)+2\,i\,x^3\left(34\left(i+\sqrt{2}\right)+9\sqrt{1-2\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}\right)+$$

$$i\,x^2\left(44\,i+185\sqrt{2}+72\sqrt{1-2\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}\right)\Big)\Big/$$

$$\left(93\,i+150\sqrt{2}+20\left(17\,i+22\sqrt{2}\right)x+\left(493\,i+466\sqrt{2}\right)x^2+16\left(19\,i+13\sqrt{2}\right)x^3+\left(66\,i+32\sqrt{2}\right)x^4\right)\Big]-$$

$$\frac{1}{\sqrt{1+2\,i\sqrt{2}}}\,2\,i\left(-i+2\sqrt{2}\right)\text{ArcTan}\Big[\Big(-60+51\,i\sqrt{2}+2\left(8+3\,i\sqrt{2}\right)x^4+54\,i\sqrt{1+2\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}+$$

$$2\,x^3\left(34+34\,i\sqrt{2}+9\,i\sqrt{1+2\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}\right)+x^2\left(44+185\,i\sqrt{2}+72\,i\sqrt{1+2\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}\right)+$$

$$i\,x\left(68\,i+176\sqrt{2}+99\sqrt{1+2\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}\right)\Big)\Big/$$

$$\left(-93\,i+150\sqrt{2}+20\left(-17\,i+22\sqrt{2}\right)x+\left(-493\,i+466\sqrt{2}\right)x^2+16\left(-19\,i+13\sqrt{2}\right)x^3+\left(-66\,i+32\sqrt{2}\right)x^4\right)\Big]+$$

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

$$\frac{1}{\sqrt{1-2\,i\sqrt{2}}}$$

$$\left(i+2\sqrt{2}\right)\text{Log}\Big[\left(3+4\,x+2\,x^2\right)$$

$$\left(-3-6\,i\sqrt{2}+\left(-2-2\,i\sqrt{2}\right)x^2+2\sqrt{2-4\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}+2\,x\left(-2-4\,i\sqrt{2}+\sqrt{2-4\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}\right)\right)\Big]-$$

$$\frac{1}{\sqrt{1+2\,i\sqrt{2}}}\left(-i+2\sqrt{2}\right)\text{Log}\Big[\left(3+4\,x+2\,x^2\right)\Big(-3+6\,i\sqrt{2}+2\,i\left(i+\sqrt{2}\right)x^2+$$

$$2\sqrt{2+4\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}+2\,x\left(-2+4\,i\sqrt{2}+\sqrt{2+4\,i\sqrt{2}}\,\sqrt{-3-4\,x-x^2}\right)\Big)\Big]\Bigg)$$

Incorrect antiderivative:

$$\left\{\frac{1}{\sqrt{8\,x-8\,x^2+4\,x^3-x^4}},\ x,\ 3,\ 0\right\}$$

$$-\frac{\sqrt{3+(1-x)^2}\,\sqrt{(2-x)\,x}\ \text{EllipticF}\left[\text{ArcSin}[1-x],-\frac{1}{3}\right]}{\sqrt{3}\,\sqrt{3-2\,(1-x)^2-(1-x)^4}}$$

$$\frac{\sqrt{-\mathbb{i}+\sqrt{3}+\frac{4\,\mathbb{i}}{x}}\,\sqrt{-\frac{\mathbb{i}\,(-2+x)}{\left(-\mathbb{i}+\sqrt{3}\right)x}}\,x\left(-4+x-\mathbb{i}\,\sqrt{3}\,x\right)\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\mathbb{i}+\sqrt{3}-\frac{4\,\mathbb{i}}{x}}}{\sqrt{2}\,3^{1/4}}\right],\frac{2\sqrt{3}}{-\mathbb{i}+\sqrt{3}}\right]}{\sqrt{2}\,\sqrt{\mathbb{i}+\sqrt{3}-\frac{4\,\mathbb{i}}{x}}\,\sqrt{-x\left(-8+8\,x-4\,x^2+x^3\right)}}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\sqrt{3-2\,x^2-x^4},\,x,\,5,\,0\right\}$$

$$\frac{1}{3}\,x\,\sqrt{3-2\,x^2-x^4}-\frac{2\,\text{EllipticE}\left[\text{ArcSin}[x],-\frac{1}{3}\right]}{\sqrt{3}}+\frac{4\,\text{EllipticF}\left[\text{ArcSin}[x],-\frac{1}{3}\right]}{\sqrt{3}}$$

$$\frac{-x\left(-3+2\,x^2+x^4\right)-2\,\mathbb{i}\,\sqrt{3-2\,x^2-x^4}\,\text{EllipticE}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{x}{\sqrt{3}}\right],-3\right]-4\,\mathbb{i}\,\sqrt{3-2\,x^2-x^4}\,\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{x}{\sqrt{3}}\right],-3\right]}{3\,\sqrt{3-2\,x^2-x^4}}$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{1}{3}\,x\,\sqrt{3-2\,x^2-x^4}-\frac{2\,\text{EllipticE}\left[\text{ArcSin}[x],-\frac{1}{3}\right]}{\sqrt{3}}+\frac{4\,\text{EllipticF}\left[\text{ArcSin}[x],-\frac{1}{3}\right]}{\sqrt{3}}$$

$$\frac{-x\left(-3+2\,x^2+x^4\right)-2\,\mathbb{i}\,\sqrt{3-2\,x^2-x^4}\,\text{EllipticE}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{x}{\sqrt{3}}\right],-3\right]-4\,\mathbb{i}\,\sqrt{3-2\,x^2-x^4}\,\text{EllipticF}\left[\mathbb{i}\,\text{ArcSinh}\left[\frac{x}{\sqrt{3}}\right],-3\right]}{3\,\sqrt{3-2\,x^2-x^4}}$$

Incorrect antiderivative:

$$\left\{\sqrt{8\,x-8\,x^2+4\,x^3-x^4},\,x,\,6,\,0\right\}$$

$$-\frac{1}{3}\,\sqrt{3-2\,(1-x)^2-(1-x)^4}\,(1-x)+\frac{2\,\text{EllipticE}\left[\text{ArcSin}[1-x],-\frac{1}{3}\right]}{\sqrt{3}}-\frac{4\,\text{EllipticF}\left[\text{ArcSin}[1-x],-\frac{1}{3}\right]}{\sqrt{3}}$$

$$-\frac{1}{3\,\sqrt{-x\left(-8+8\,x-4\,x^2+x^3\right)}}\left(-16+24\,x-24\,x^2+14\,x^3-5\,x^4+x^5-\frac{2\,\mathbb{i}\,\sqrt{2}\,(-2+x)\,x\,\sqrt{\frac{4-2\,x+x^2}{x^2}}\,\text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{\mathbb{i}+\sqrt{3}-\frac{4\,\mathbb{i}}{x}}}{\sqrt{2}\,3^{1/4}}\right],\frac{2\sqrt{3}}{-\mathbb{i}+\sqrt{3}}\right]}{\sqrt{-\frac{\mathbb{i}\,(-2+x)}{\left(-\mathbb{i}+\sqrt{3}\right)x}}}+\right.$$

$$\left.8\,\mathbb{i}\,\sqrt{2}\,\sqrt{-\frac{\mathbb{i}\,(-2+x)}{\left(-\mathbb{i}+\sqrt{3}\right)x}}\,x^2\,\sqrt{\frac{4-2\,x+x^2}{x^2}}\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{\mathbb{i}+\sqrt{3}-\frac{4\,\mathbb{i}}{x}}}{\sqrt{2}\,3^{1/4}}\right],\frac{2\sqrt{3}}{-\mathbb{i}+\sqrt{3}}\right]\right)$$

Incorrect antiderivative:

$$\left\{\sqrt{(2-x)\,x\,\left(4-2x+x^2\right)},\ x,\ 7,\ 0\right\}$$

$$-\frac{1}{3}\sqrt{3-2\,(1-x)^2-(1-x)^4}\ (1-x)+\frac{2\,\text{EllipticE}\left[\text{ArcSin}[1-x],-\frac{1}{3}\right]}{\sqrt{3}}-\frac{4\,\text{EllipticF}\left[\text{ArcSin}[1-x],-\frac{1}{3}\right]}{\sqrt{3}}$$

$$\frac{1}{3\,(-2+x)\,x\,\sqrt{\frac{4-2x+x^2}{x^2}}}\sqrt{-x\left(-8+8x-4x^2+x^3\right)}\left(\sqrt{\frac{4-2x+x^2}{x^2}}\left(-4+4x-3x^2+x^3\right)+2\sqrt{2}\left(-i+\sqrt{3}\right)\sqrt{-\frac{i\,(-2+x)}{\left(-i+\sqrt{3}\right)x}}\ \text{EllipticE}\left[\text{ArcSin}\left[\frac{\sqrt{i+\sqrt{3}-\frac{4i}{x}}}{\sqrt{2}\ 3^{1/4}}\right],\frac{2\sqrt{3}}{-i+\sqrt{3}}\right]+8\,i\,\sqrt{2}\sqrt{-\frac{i\,(-2+x)}{\left(-i+\sqrt{3}\right)x}}\ \text{EllipticF}\left[\text{ArcSin}\left[\frac{\sqrt{i+\sqrt{3}-\frac{4i}{x}}}{\sqrt{2}\ 3^{1/4}}\right],\frac{2\sqrt{3}}{-i+\sqrt{3}}\right]\right)$$

Incorrect antiderivative:

$$\left\{\frac{1}{\sqrt{9-6x-44x^2+15x^3+3x^4}},\ x,\ 6,\ 0\right\}$$

$$-\frac{\sqrt{\frac{1}{613}\left(91-6\sqrt{213}\right)}\ \sqrt{15-\sqrt{213}+\frac{2\,(-3+x)}{x^2}}\ \sqrt{15+\sqrt{213}+\frac{2\,(-3+x)}{x^2}}\ x^2\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{6\left(-\frac{1}{6}+\frac{1}{x}\right)}{\sqrt{91-6\sqrt{213}}}\right],\frac{-6552+432\sqrt{213}}{-6552-432\sqrt{213}}\right]}{\sqrt{9-6x-44x^2+15x^3+3x^4}}$$

$$-\Bigg(2\,\text{EllipticF}\Big[\text{ArcSin}\Big[\sqrt{\big(\big((x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1])\ (\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4])\big)\big/\big((x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2])\ (\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4])\big)\big)}\Big],$$
$$\big((\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3])\ (\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4])\big)\big/\big((\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3])\ (\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4])\big)\Big]$$
$$\sqrt{\frac{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]}{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]}}\ \left(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]\right)^2$$
$$\sqrt{\frac{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]}{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]}}$$
$$\sqrt{\frac{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]}{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]}}\Bigg)\Big/$$
$$\Big(\sqrt{\big((9-6x-44x^2+15x^3+3x^4)\ (\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3])\ (\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4])\big)}\Big)$$

Incorrect antiderivative:

$$\left\{\sqrt{9-6x-44x^2+15x^3+3x^4}\,,\ x,\ -3,\ 0\right\}$$

$$-\frac{\sqrt{\frac{1}{613}\left(91-6\sqrt{213}\right)}\ \sqrt{15-\sqrt{213}+\frac{2(-3+x)}{x^2}}\ \sqrt{15+\sqrt{213}+\frac{2(-3+x)}{x^2}}\ x^2\,\text{EllipticF}\left[\text{ArcSin}\left[\frac{6\left(-\frac{1}{6}+\frac{1}{x}\right)}{\sqrt{91-6\sqrt{213}}}\right],\ \frac{-6552+432\sqrt{213}}{-6552-432\sqrt{213}}\right]}{\sqrt{9-6x-44x^2+15x^3+3x^4}}$$

$$\left(\frac{5}{12}+\frac{x}{3}\right)\sqrt{9-6x-44x^2+15x^3+3x^4}\ +\frac{1}{24}\Bigg(\Bigg(736\left(x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]\right)^2$$

$$\Bigg(-\text{EllipticF}\Big[\text{ArcSin}\Big[\sqrt{}\Big(\Big(\left(x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]\right)\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]-\right.$$

$$\left.\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big/\Big(\left(x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]\right)$$

$$\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big)\Big],$$

$$-\Big(\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,3\right]\right)$$

$$\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big/$$

$$\Big(\left(-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]+\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,3\right]\right)$$

$$\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]-\right.$$

$$\left.\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big]\ \text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]+$$

$$\text{EllipticPi}\Big[\frac{-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]+\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]}{-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]+\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]},$$

$$\text{ArcSin}\Big[\sqrt{}\Big(\Big(\left(x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]\right)\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]-\right.$$

$$\left.\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big/\Big(\left(x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]\right)$$

$$\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big)\Big],$$

$$-\Big(\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,3\right]\right)$$

$$\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big/$$

$$\Big(\left(-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]+\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,3\right]\right)$$

$$\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big]$$

$$\left(-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]+\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]\right)\Bigg)$$

$$\sqrt{\frac{x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,3\right]}{x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]}}$$

$$\sqrt{\frac{x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]}{x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]}}$$

$$\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]-\right.$$

$$\left.\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)$$

$$\sqrt{}\Big(\Big(\left(x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,1\right]\right)\left(\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]-\right.$$

$$\left.\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,4\right]\right)\Big)\Big/\Big(\left(x-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,\,2\right]\right)$$

$$\left(\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)\Big)\Big)\Bigg)\Big/$$

$$\Bigg(\sqrt{9-6\,x-44\,x^2+15\,x^3+3\,x^4}\;\left(\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)$$

$$\sqrt{}\Big(\Big(-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]+\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,3\right]\Big)$$

$$\left(-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]+\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)\Big)\Big)\Bigg)+$$

$$\Bigg(348\,\text{EllipticF}\Big[\text{ArcSin}\Big[\sqrt{}\Big(\Big(\Big(x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]\Big)\;\Big(-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]+$$

$$\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\Big)\Big)\Big/\Big(\Big(x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]\Big)$$

$$\left(-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]+\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)\Big)\Big)\Big]\Big],$$

$$\Big(\Big(\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,3\right]\Big)$$

$$\left(\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)\Big)\Big/$$

$$\Big(\Big(\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,3\right]\Big)$$

$$\left(\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)\Big)\Big]$$

$$\sqrt{\frac{x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]}{x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]}}\;\left(x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]\right)^2$$

$$\sqrt{\frac{x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,3\right]}{x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]}}$$

$$\sqrt{\frac{x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]}{x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]}}$$

$$\left(\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)\Bigg)\Big/$$

$$\Bigg(\sqrt{9-6\,x-44\,x^2+15\,x^3+3\,x^4}\;\left(-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]+\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)$$

$$\sqrt{}\Big(\Big(-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]+\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,3\right]\Big)$$

$$\left(-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]+\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)\Big)\Big)\Bigg)-$$

$$\frac{1}{\sqrt{9-6\,x-44\,x^2+15\,x^3+3\,x^4}}\,577\,\Bigg(\left(x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]\right)$$

$$\left(x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,3\right]\right)\;\left(x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,4\right]\right)+$$

$$\left(x-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]\right)^2$$

$$\left(-\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,1\right]+\text{Root}\left[9-6\,\#1-44\,\#1^2+15\,\#1^3+3\,\#1^4\,\&,\,2\right]\right)$$

$$\sqrt{\frac{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]}{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]}}\ \sqrt{\frac{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]}{x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]}}$$

$$\sqrt{}\Big(\big(\big(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big/\big(\big(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big)$$

$$\sqrt{\frac{-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]}{-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]}}$$

$$\Bigg(\Big(\text{EllipticE}\Big[\text{ArcSin}\Big[\sqrt{}\Big(\big(\big(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big/\big(\big(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big)\Big],$$

$$-\big(\big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big/\big(\big(-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big]$$

$$\big(-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]\big)\Big)\Big/\big(-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]\big)+$$

$$\Big(\text{EllipticF}\Big[\text{ArcSin}\Big[\sqrt{}\Big(\big(\big(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big/\big(\big(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big)\Big],$$

$$-\big(\big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big/\big(\big(-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big]$$

$$\big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]\ \big(-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big)\Big/$$

$$\big(\big(-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]\big)\ \big(-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)-$$

$$\Bigg(\text{EllipticPi}\Big[\frac{-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]}{-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]},$$

$$\text{ArcSin}\Big[\sqrt{}\Big(\big(\big(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big/\big(\big(x-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big)\Big],$$

$$-\big(\big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big/\big(\big(-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1]+\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3]\big)\ \big(\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2]-\text{Root}[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4]\big)\big)\Big]$$

$$\left(-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,1\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,3\right]-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4\right]\right)\right)\Big/$$

$$\left(-\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,2\right]+\text{Root}\left[9-6\#1-44\#1^2+15\#1^3+3\#1^4\&,4\right]\right)\Bigg)\Bigg)\Bigg)$$

Incorrect antiderivative:

$$\left\{\frac{x}{\sqrt{-71-96x+10x^2+x^4}},\ x,\ -1,\ 0\right\}$$

$$-\frac{1}{8}\text{Log}\left[-10001-3124x^2+1408x^3-54x^4+128x^5-20x^6-x^8+\sqrt{-71-96x+10x^2+x^4}\left(781-528x+27x^2-80x^3+15x^4+x^6\right)\right]$$

$$-\Bigg(2\left(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]\right)\left(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]\right)$$

$$\Bigg(\text{EllipticPi}\Bigg[\frac{\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]}{\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]},$$

$$\text{ArcSin}\Big[\sqrt{}\Big(\Big(\Big(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]\Big)\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\Big)\Big)\Big/\Big(\Big(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]\Big)\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\Big)\Big)\Big)\Big],$$

$$-\Big(\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,3\right]\Big)\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\Big)\Big)\Big/$$

$$\Big(\Big(-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]+\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,3\right]\Big)\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\Big)\Big)\Bigg]$$

$$\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]\Big)+$$

$$\text{EllipticF}\Big[\text{ArcSin}\Big[\sqrt{}\Big(\Big(\Big(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]\Big)\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\Big)\Big)\Big/\Big(\Big(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]\Big)\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\Big)\Big)\Big)\Big],$$

$$-\Big(\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,3\right]\Big)\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\Big)\Big)\Big/$$

$$\Big(\Big(-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]+\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,3\right]\Big)\Big(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\Big)\Big)\Big]\ \text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]\Bigg)$$

$$\sqrt{\frac{x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,3\right]}{\left(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]\right)\left(-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]+\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,3\right]\right)}}$$

$$\sqrt{\frac{x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]}{\left(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]\right)\left(-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]+\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\right)}}\Bigg)\Big/$$

$$\Bigg(\sqrt{-71-96x+10x^2+x^4}$$

$$\sqrt{\frac{\left(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]\right)\left(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\right)}{\left(x-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,2\right]\right)\left(\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,1\right]-\text{Root}\left[-71-96\#1+10\#1^2+\#1^4\&,4\right]\right)}}\Bigg)$$

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{2\sqrt{x}\,\sqrt{1+x}\,\text{ArcSinh}\left[\sqrt{x}\right]}{\sqrt{x\,(1+x)}}$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{\sqrt{-7+2\,x+5\,x^2}\,\left(8+12\,x+5\,x^2\right)}, x, 3, 0\right\}$$

$$\left(-\frac{1}{20}+\frac{i}{10}\right)\text{ArcTan}\left[\frac{\left(\frac{1}{50}+\frac{i}{100}\right)\left((-164-8\,i)-(100+40\,i)\,x\right)}{\sqrt{-7+2\,x+5\,x^2}}\right]-\left(\frac{1}{10}-\frac{i}{20}\right)\text{ArcTanh}\left[\frac{\left(\frac{1}{100}+\frac{i}{50}\right)\left((-164+8\,i)-(100-40\,i)\,x\right)}{\sqrt{-7+2\,x+5\,x^2}}\right]$$

$$\frac{1}{40}\left((2+4\,i)\,\text{ArcTan}\left[\frac{5\,(2+x)}{2\sqrt{-7+2\,x+5\,x^2}}\right]+i\left((4+2\,i)\,\text{ArcTan}\left[\frac{2\sqrt{-7+2\,x+5\,x^2}}{5\,(2+x)}\right]+\text{Log}\left[\frac{1327104}{625}\right]-\right.\right.$$
$$2\,\text{Log}\left[8+12\,x+5\,x^2\right]+(1+2\,i)\,\text{Log}\left[9+26\,x+15\,x^2-5\sqrt{-7+2\,x+5\,x^2}-5\,x\sqrt{-7+2\,x+5\,x^2}\right]+$$
$$\left.\left.(1-2\,i)\,\text{Log}\left[9+26\,x+15\,x^2+5\sqrt{-7+2\,x+5\,x^2}+5\,x\sqrt{-7+2\,x+5\,x^2}\right]\right)\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{\left(1+\sqrt{x}\right)^{1/3}}{x}, x, 7, 0\right\}$$

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

$$\frac{6+6\sqrt{x}-3\left(1+\frac{1}{\sqrt{x}}\right)^{2/3}\text{Hypergeometric2F1}\left[\frac{2}{3},\frac{2}{3},\frac{5}{3},-\frac{1}{\sqrt{x}}\right]}{\left(1+\sqrt{x}\right)^{2/3}}$$

Valid but unnecessarily complicated antiderivative:

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

$$\text{ArcTan}\left[\sqrt{2x+x^2}\right]$$

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

Valid but unnecessarily complicated antiderivative:

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

$$\text{ArcTan}\left[2\sqrt{x+x^2}\right]$$

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\left(a\,x^m+b\,x^{1+6m}\right)^5,\ x,\ 3,\ 0\right\}$$

$$\frac{\left(a+b\,x^{1+5m}\right)^6}{6\,b\,(1+5m)}$$

$$\frac{x^{1+5m}\left(6a^5+15a^4b\,x^{1+5m}+20a^3b^2x^{2+10m}+15a^2b^3x^{3+15m}+6ab^4x^{4+20m}+b^5x^{5+25m}\right)}{6+30m}$$

Incorrect antiderivative:

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

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

$$\frac{2\sqrt{-\frac{x}{1+x}}\ \text{ArcSinh}\left[\sqrt{x}\right]}{\sqrt{\frac{x}{1+x}}}$$

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{\sqrt{x}-x^{5/2}},\ x,\ 4,\ 0\right\}$$

$$\text{ArcTan}\left[\sqrt{x}\right]+\text{ArcTanh}\left[\sqrt{x}\right]$$

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

Valid but unnecessarily complicated antiderivative:

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

$$\text{ArcTan}\left[\sqrt{x}\right]+\text{ArcTanh}\left[\sqrt{x}\right]$$

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

Valid but unnecessarily complicated antiderivative:

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

$$\text{ArcTan}\left[\sqrt{x}\right]+\text{ArcTanh}\left[\sqrt{x}\right]$$

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

Unable to integrate:

$$\left\{\frac{1}{1-x^4}-\frac{\sqrt{x^6}}{x-x^5},\ x,\ 9,\ 0\right\}$$

$$\frac{\text{ArcTan}[x]}{2}+\frac{\sqrt{x^6}\ (\text{ArcTan}[x]-\text{ArcTanh}[x])}{2\,x^3}+\frac{\text{ArcTanh}[x]}{2}$$

$$\int\left(\frac{1}{1-x^4}-\frac{\sqrt{x^6}}{x-x^5}\right)dx$$

Unable to integrate:

$$\left\{\frac{1}{1-x^4}-\frac{\sqrt{x^6}}{x\left(1-x^4\right)},\ x,\ 8,\ 0\right\}$$

$$\frac{\text{ArcTan}[x]}{2}+\frac{\sqrt{x^6}\ (\text{ArcTan}[x]-\text{ArcTanh}[x])}{2\,x^3}+\frac{\text{ArcTanh}[x]}{2}$$

$$\int\left(\frac{1}{1-x^4}-\frac{\sqrt{x^6}}{x\left(1-x^4\right)}\right)dx$$

Unable to integrate:

$$\left\{\frac{x-\sqrt{x^6}}{x-x^5},\ x,\ 9,\ 0\right\}$$

$$\frac{\text{ArcTan}[x]}{2}+\frac{\sqrt{x^6}\ (\text{ArcTan}[x]-\text{ArcTanh}[x])}{2\,x^3}+\frac{\text{ArcTanh}[x]}{2}$$

$$\int\frac{x-\sqrt{x^6}}{x-x^5}\,dx$$

Unable to integrate:

$$\left\{\frac{x-\sqrt{x^6}}{x\left(1-x^4\right)},\ x,\ 9,\ 0\right\}$$

$$\frac{\text{ArcTan}[x]}{2}+\frac{\sqrt{x^6}\ (\text{ArcTan}[x]-\text{ArcTanh}[x])}{2\,x^3}+\frac{\text{ArcTanh}[x]}{2}$$

$$\int\frac{x-\sqrt{x^6}}{x\left(1-x^4\right)}\,dx$$

Unable to integrate:

$$\left\{\frac{1-\frac{\sqrt{x^6}}{x}}{1-x^4},\ x,\ 9,\ 0\right\}$$

$$\frac{\text{ArcTan}[x]}{2}+\frac{\sqrt{x^6}\,(\text{ArcTan}[x]-\text{ArcTanh}[x])}{2\,x^3}+\frac{\text{ArcTanh}[x]}{2}$$

$$\int\frac{1-\frac{\sqrt{x^6}}{x}}{1-x^4}\,dx$$

Unable to integrate:

$$\left\{\frac{x}{x+\sqrt{x^6}},\ x,\ 10,\ 0\right\}$$

$$\frac{\text{ArcTan}[x]}{2}+\frac{\sqrt{x^6}\,(\text{ArcTan}[x]-\text{ArcTanh}[x])}{2\,x^3}+\frac{\text{ArcTanh}[x]}{2}$$

$$\int\frac{x}{x+\sqrt{x^6}}\,dx$$

Unable to integrate:

$$\left\{\frac{\sqrt{x}-\sqrt{x^3}}{x-x^3},\ x,\ 11,\ 0\right\}$$

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

$$\int\frac{\sqrt{x}-\sqrt{x^3}}{x-x^3}\,dx$$

Unable to integrate:

$$\left\{\frac{1}{\sqrt{x}+\sqrt{x^3}},\ x,\ 12,\ 0\right\}$$

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

$$\int\frac{1}{\sqrt{x}+\sqrt{x^3}}\,dx$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{1}{\sqrt{1+\frac{1}{x^2}}}$$

$$\frac{\sqrt{1+\frac{1}{x^2}}\,x^2}{1+x^2}$$

Valid but unnecessarily complicated antiderivative:

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

$$\frac{1}{\sqrt{1+\frac{1}{x^2}}}$$

$$\frac{\sqrt{1+\frac{1}{x^2}}\ x^2}{1+x^2}$$

Valid but unnecessarily complicated antiderivative:

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

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

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