Mathematica 7 Test Results

For Contributed Integration Problems

Contributed problems

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{x^7}{1+x^{12}},\ x,\ 5,\ 0\right\}$$

$$-\frac{\text{ArcTan}\left[\frac{1-2x^4}{\sqrt{3}}\right]}{4\sqrt{3}}-\frac{1}{12}\text{Log}\left[1+x^4\right]+\frac{1}{24}\text{Log}\left[1-x^4+x^8\right]$$

$$\frac{1}{24}\left(2\sqrt{3}\ \text{ArcTan}\left[\frac{1+\sqrt{3}-2\sqrt{2}\ x}{1-\sqrt{3}}\right]-2\sqrt{3}\ \text{ArcTan}\left[\frac{1-\sqrt{3}+2\sqrt{2}\ x}{1+\sqrt{3}}\right]+2\sqrt{3}\ \text{ArcTan}\left[\frac{-1+\sqrt{3}+2\sqrt{2}\ x}{1+\sqrt{3}}\right]-\right.$$
$$2\sqrt{3}\ \text{ArcTan}\left[\frac{1+\sqrt{3}+2\sqrt{2}\ x}{-1+\sqrt{3}}\right]-2\,\text{Log}\left[1-\sqrt{2}\ x+x^2\right]-2\,\text{Log}\left[1+\sqrt{2}\ x+x^2\right]+\text{Log}\left[2+\sqrt{2}\ x-\sqrt{6}\ x+2x^2\right]+$$
$$\left.\text{Log}\left[2+\sqrt{2}\left(-1+\sqrt{3}\right)x+2x^2\right]+\text{Log}\left[2-\left(\sqrt{2}+\sqrt{6}\right)x+2x^2\right]+\text{Log}\left[2+\left(\sqrt{2}+\sqrt{6}\right)x+2x^2\right]\right)$$

Valid but unnecessarily complicated antiderivative:

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

$$B\,\text{ArcTan}\left[\frac{B\,y}{\sqrt{A^2+B^2-B^2y^2}}\right]+A\,\text{ArcTanh}\left[\frac{A\,y}{\sqrt{A^2+B^2-B^2y^2}}\right]$$

$$\frac{1}{2}\left(-A\,\text{Log}\left[A^3\,(-1+y)\right]+A\,\text{Log}\left[A^3\,(1+y)\right]+2\,\mathrm{i}\,B\,\text{Log}\left[2\left(-\mathrm{i}\,B\,y+\sqrt{A^2+B^2-B^2y^2}\right)\right]+\right.$$
$$\left.A\,\text{Log}\left[-4\left(A^2+B^2-B^2y+A\sqrt{A^2+B^2-B^2y^2}\right)\right]-A\,\text{Log}\left[4\left(A^2+B^2\,(1+y)+A\sqrt{A^2+B^2-B^2y^2}\right)\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\text{Csc}[x]\sqrt{A^2+B^2\,\text{Sin}[x]^2},\ x,\ 5,\ 0\right\}$$

$$-B\,\text{ArcTan}\left[\frac{B\,\text{Cos}[x]}{\sqrt{A^2+B^2\,\text{Sin}[x]^2}}\right]-A\,\text{ArcTanh}\left[\frac{A\,\text{Cos}[x]}{\sqrt{A^2+B^2\,\text{Sin}[x]^2}}\right]$$

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\text{Csc}[x]\sqrt{A^2+B^2\,\text{Sin}[x]^2},\ x,\ 5,\ 0\right\}$$

$$-B\,\text{ArcTan}\left[\frac{B\,\text{Cos}[x]}{\sqrt{A^2+B^2\,\text{Sin}[x]^2}}\right]-A\,\text{ArcTanh}\left[\frac{A\,\text{Cos}[x]}{\sqrt{A^2+B^2\,\text{Sin}[x]^2}}\right]$$

$$-\sqrt{A^2}\ \text{ArcTanh}\Big[\frac{\sqrt{2}\ \sqrt{A^2}\ \text{Cos}[x]}{\sqrt{2\,A^2+B^2-B^2\,\text{Cos}[2\,x]}}\Big]+\sqrt{-B^2}\ \text{Log}\Big[\sqrt{2}\ \sqrt{-B^2}\ \text{Cos}[x]+\sqrt{2\,A^2+B^2-B^2\,\text{Cos}[2\,x]}\ \Big]$$

Valid but unnecessarily complicated antiderivative:

$$\Big\{-\frac{\sqrt{A^2+B^2\,\left(1-y^2\right)}}{1-y^2},\ y,\ 5,\ 0\Big\}$$

$$-B\,\text{ArcTan}\Big[\frac{B\,y}{\sqrt{A^2+B^2-B^2\,y^2}}\Big]-A\,\text{ArcTanh}\Big[\frac{A\,y}{\sqrt{A^2+B^2-B^2\,y^2}}\Big]$$

$$\frac{1}{2}\ \Big(A\,\text{Log}\big[A^3\,(-1+y)\big]-A\,\text{Log}\big[A^3\,(1+y)\big]-2\,\mathrm{i}\,B\,\text{Log}\Big[2\ \Big(-\mathrm{i}\,B\,y+\sqrt{A^2+B^2-B^2\,y^2}\Big)\Big]-A\,\text{Log}\Big[4\ \Big(A^2+B^2-B^2\,y+A\,\sqrt{A^2+B^2-B^2\,y^2}\Big)\Big]+A\,\text{Log}\Big[-4\ \Big(A^2+B^2\,(1+y)+A\,\sqrt{A^2+B^2-B^2\,y^2}\Big)\Big]\Big)$$

Valid but unnecessarily complicated antiderivative:

$$\Big\{\frac{1}{1+\sqrt{x+\sqrt{1+x^2}}},\ x,\ 7,\ 0\Big\}$$

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

$$\frac{1}{12}\Bigg(6\,x-6\,\sqrt{1+x^2}\ +4\ \Big(-2\,x+\sqrt{1+x^2}\Big)\ \sqrt{x+\sqrt{1+x^2}}\ -12\,\text{Log}[x]+6\,\text{Log}\Big[-4\ \Big(1+\sqrt{1+x^2}\Big)\Big]+$$
$$\frac{6\,\sqrt{1+x^2}\ \left(x+\sqrt{1+x^2}\right)\ \left(2\,\sqrt{x+\sqrt{1+x^2}}\ -2\,\text{ArcTan}\Big[\sqrt{x+\sqrt{1+x^2}}\ \Big]+\text{Log}\Big[-1+\sqrt{x+\sqrt{1+x^2}}\ \Big]-\text{Log}\Big[1+\sqrt{x+\sqrt{1+x^2}}\ \Big]\right)}{1+x^2+x\,\sqrt{1+x^2}}+$$
$$\frac{1}{\left(1+x^2+x\,\sqrt{1+x^2}\right)^2}\,2\ \left(1+x^2\right)\ \left(x+\sqrt{1+x^2}\right)^{3/2}\ \Bigg(4+2\,x^2+2\,x\,\sqrt{1+x^2}\ +6\,\sqrt{x+\sqrt{1+x^2}}\ \ \text{ArcTan}\Big[\sqrt{x+\sqrt{1+x^2}}\ \Big]+$$
$$3\,\sqrt{x+\sqrt{1+x^2}}\ \ \text{Log}\Big[-1+\sqrt{x+\sqrt{1+x^2}}\ \Big]-3\,\sqrt{x+\sqrt{1+x^2}}\ \ \text{Log}\Big[1+\sqrt{x+\sqrt{1+x^2}}\ \Big]\Bigg)\Bigg)$$

Valid but unnecessarily complicated antiderivative:

$$\Big\{\frac{\sqrt{1+x}}{x+\sqrt{1+\sqrt{1+x}}},\ x,\ 6,\ 0\Big\}$$

$$2+2\sqrt{1+x}+\frac{8\,\text{ArcTanh}\left[\frac{1+2\sqrt{1+\sqrt{1+x}}}{\sqrt{5}}\right]}{\sqrt{5}}$$

$$\frac{2}{5}\left(5\sqrt{1+x}-\left(-5+\sqrt{5}\right)\sqrt{\frac{1}{2}\left(3+\sqrt{5}\right)}\,\text{ArcTanh}\left[\sqrt{\frac{2}{3-\sqrt{5}}}\sqrt{1+\sqrt{1+x}}\right]+\right.$$
$$\left.\sqrt{\frac{2}{3+\sqrt{5}}}\left(5+\sqrt{5}\right)\text{ArcTanh}\left[\sqrt{\frac{2}{3+\sqrt{5}}}\sqrt{1+\sqrt{1+x}}\right]-2\sqrt{5}\,\text{ArcTanh}\left[\frac{-1+2\sqrt{1+x}}{\sqrt{5}}\right]\right)$$

Valid but unnecessarily complicated antiderivative:

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

$$-\frac{4\,\text{ArcTanh}\left[\frac{1-2\sqrt{1+\sqrt{1+x}}}{\sqrt{5}}\right]}{\sqrt{5}}+2\,\text{Log}\left[-\sqrt{1+x}+\sqrt{1+\sqrt{1+x}}\right]$$

$$2\sqrt{\frac{2}{5}\left(3+\sqrt{5}\right)}\,\text{ArcTanh}\left[\sqrt{\frac{2}{3-\sqrt{5}}}\sqrt{1+\sqrt{1+x}}\right]-$$
$$4\sqrt{\frac{2}{5\left(3+\sqrt{5}\right)}}\,\text{ArcTanh}\left[\sqrt{\frac{2}{3+\sqrt{5}}}\sqrt{1+\sqrt{1+x}}\right]+\frac{2\,\text{ArcTanh}\left[\frac{-1+2\sqrt{1+x}}{\sqrt{5}}\right]}{\sqrt{5}}+\text{Log}\left[x-\sqrt{1+x}\right]$$

Valid but unnecessarily complicated antiderivative:

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

$$-2+2\sqrt{1+x}-4\sqrt{1-\sqrt{1+x}}+\left(1-\sqrt{1+x}\right)^2+\frac{8\,\text{ArcTanh}\left[\frac{1+2\sqrt{1-\sqrt{1+x}}}{\sqrt{5}}\right]}{\sqrt{5}}$$

$$x-4\sqrt{1-\sqrt{1+x}}+2\left(1+\sqrt{5}\right)\sqrt{\frac{2}{5\left(3+\sqrt{5}\right)}}\,\text{ArcTanh}\left[\frac{\sqrt{2-2\sqrt{1+x}}}{\sqrt{3+\sqrt{5}}}\right]+$$
$$\left(-1+\sqrt{5}\right)\sqrt{\frac{2}{5}\left(3+\sqrt{5}\right)}\,\text{ArcTanh}\left[\sqrt{2}\sqrt{\frac{-1+\sqrt{1+x}}{-3+\sqrt{5}}}\right]+\frac{4\,\text{ArcTanh}\left[\frac{1+2\sqrt{1+x}}{\sqrt{5}}\right]}{\sqrt{5}}$$

Incorrect antiderivative:

$$\left\{\frac{\sqrt{x+\sqrt{1+x}}}{\sqrt{1+x}\left(1+x^2\right)},\ x,\ 16,\ 0\right\}$$

$$\left(\frac{1}{8}-\frac{i}{8}\right)\sqrt{(4+4i)-4(1-i)^{3/2}}\ \mathrm{ArcTan}\left[\frac{(2-2i)-4\sqrt{1-i}-\left((-4+4i)-2\sqrt{1-i}\right)\sqrt{1+x}}{2\sqrt{(4+4i)-4(1-i)^{3/2}}\ \sqrt{x+\sqrt{1+x}}}\right]+$$

$$\left(\frac{1}{8}-\frac{i}{8}\right)\sqrt{(4+4i)+4(1-i)^{3/2}}\ \mathrm{ArcTan}\left[\frac{(2-2i)+4\sqrt{1-i}-\left((-4+4i)+2\sqrt{1-i}\right)\sqrt{1+x}}{2\sqrt{(4+4i)+4(1-i)^{3/2}}\ \sqrt{x+\sqrt{1+x}}}\right]+$$

$$\left(\frac{1}{8}+\frac{i}{8}\right)\sqrt{(4-4i)-4(1+i)^{3/2}}\ \mathrm{ArcTan}\left[\frac{(2+2i)-4\sqrt{1+i}-\left((-4-4i)-2\sqrt{1+i}\right)\sqrt{1+x}}{2\sqrt{(4-4i)-4(1+i)^{3/2}}\ \sqrt{x+\sqrt{1+x}}}\right]+$$

$$\left(\frac{1}{8}+\frac{i}{8}\right)\sqrt{(4-4i)+4(1+i)^{3/2}}\ \mathrm{ArcTan}\left[\frac{(2+2i)+4\sqrt{1+i}-\left((-4-4i)+2\sqrt{1+i}\right)\sqrt{1+x}}{2\sqrt{(4-4i)+4(1+i)^{3/2}}\ \sqrt{x+\sqrt{1+x}}}\right]$$

$$\left(\frac{1}{8}+\frac{i}{8}\right)\left(2\left(1+i\sqrt{1-i}\right)\sqrt{-\frac{1-i}{-i+\sqrt{1-i}}}\ \mathrm{ArcTan}\Big[\right.$$

$$\left((-1+2i)+(3-i)\sqrt{1-i}+\left(4i+(1+3i)\sqrt{1-i}\right)x-(6-6i)\sqrt{1+x}-(1-2i)\sqrt{1-i}\ \sqrt{1+x}-2\sqrt{(1+i)-(1-i)^{3/2}}\right.$$

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

$$\left.\left((7-4i)+(4+2i)\sqrt{1-i}+\left((6-4i)+8\sqrt{1-i}\right)x-(2-2i)\sqrt{1+x}+\frac{4\sqrt{1+x}}{\sqrt{1-i}}\right)\right]+$$

$$2i\sqrt{(1+i)+(1-i)^{3/2}}\ \mathrm{ArcTan}\Big[\Big((1-2i)+(3-i)\sqrt{1-i}+\left(-4i+(1+3i)\sqrt{1-i}\right)x+$$

$$(6-6i)\sqrt{1+x}-(1-2i)\sqrt{1-i}\ \sqrt{1+x}-2\sqrt{(1+i)+(1-i)^{3/2}}\ \sqrt{x+\sqrt{1+x}}-$$

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

$$\left.\left((-7+4i)+(4+2i)\sqrt{1-i}+\left((-6+4i)+8\sqrt{1-i}\right)x+(2-2i)\sqrt{1+x}+\frac{4\sqrt{1+x}}{\sqrt{1-i}}\right)\right]+$$

$$2\left(1+i\sqrt{1+i}\right)\sqrt{-\frac{1+i}{-i+\sqrt{1+i}}}\ \mathrm{ArcTan}\Big[\Big((2-i)+(1-3i)\sqrt{1+i}+\left(4-(3+i)\sqrt{1+i}\right)x+(6-6i)\sqrt{1+x}-$$

$$(2-i)\sqrt{1+i}\ \sqrt{1+x}+2i\sqrt{1+i}\ \sqrt{i-\sqrt{1+i}}\ \sqrt{x+\sqrt{1+x}}\ \left(1+2\sqrt{1+x}\right)\Big)\Big/$$

$$\left((-1+8 i)+(2+4 i)\sqrt{1+i}+(1+i)\left(3+2(1+i)^{3/2}\right)x+(2+6 i)\sqrt{1+x}+(2+8 i)\sqrt{1+i}\sqrt{1+x}\right)\Big]-$$

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

$$(1+2 i)\sqrt{1+i}\sqrt{1+x}+2\sqrt{(-1+i)+(1+i)^{3/2}}\sqrt{x+\sqrt{1+x}}\left(1+2\sqrt{1+x}\right)\Big)\Big/$$

$$\left((1-8 i)+(2+4 i)\sqrt{1+i}+(1+i)\left(-3+2(1+i)^{3/2}\right)x-(2+6 i)\sqrt{1+x}+(2+8 i)\sqrt{1+i}\sqrt{1+x}\right)\Big]+$$

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

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

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

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

$$\frac{1}{\sqrt{-\frac{1-i}{-i+\sqrt{1-i}}}}(1-i)\,\text{Log}\Big[(-1+3 i)$$

$$\left((10+5 i)+(5+8 i)x-2(1-i)^{3/2}x+8 i\sqrt{1+x}-(7+3 i)\sqrt{1-i}\sqrt{1+x}+\frac{4\sqrt{x+\sqrt{1+x}}}{\sqrt{-\frac{1-i}{-i+\sqrt{1-i}}}}+\frac{8\sqrt{1+x}\sqrt{x+\sqrt{1+x}}}{\sqrt{-\frac{1-i}{-i+\sqrt{1-i}}}}\right)\Big]+$$

$$\sqrt{(1+i)+(1-i)^{3/2}}\,\text{Log}\Big[(3+i)\Big((5-10 i)+\left((8-5 i)-\frac{4}{\sqrt{1-i}}\right)x+8\sqrt{1+x}+(3-7 i)\sqrt{1-i}\sqrt{1+x}-$$

$$2(1-i)^{3/2}\sqrt{i+\sqrt{1-i}}\sqrt{x+\sqrt{1+x}}\left(1+2\sqrt{1+x}\right)\Big)\Big]-$$

$$\frac{1}{\sqrt{\frac{1+i}{i-\sqrt{1+i}}}}(1+i)\,\text{Log}\Big[(1+3 i)\Big(\left(-5+(6-2 i)\sqrt{1+i}\right)x+(2-2 i)\sqrt{i-\sqrt{1+i}}\sqrt{x+\sqrt{1+x}}$$

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

$$\sqrt{(-1+i)+(1+i)^{3/2}}\ \mathrm{Log}\Big[(1+3\,i)\,\Big(\left(5+(6-2\,i)\sqrt{1+i}\right)x+(2-2\,i)\sqrt{i+\sqrt{1+i}}\sqrt{x+\sqrt{1+x}}$$

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

Incorrect antiderivative:

$$\left\{\frac{\sqrt{x+\sqrt{1+x}}}{1+x^2},\ x,\ 16,\ 0\right\}$$

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

$$\frac{1}{2}\,i\sqrt{-i+\sqrt{1-i}}\ \mathrm{ArcTanh}\Big[\frac{2\sqrt{-i+\sqrt{1-i}}\sqrt{x+\sqrt{1+x}}}{2-\sqrt{1-i}-\left(1+2\sqrt{1-i}\right)\sqrt{1+x}}\Big]-$$

$$\frac{1}{2}\,i\sqrt{i+\sqrt{1+i}}\ \mathrm{ArcTanh}\Big[\frac{2\sqrt{i+\sqrt{1+i}}\sqrt{x+\sqrt{1+x}}}{2-\sqrt{1+i}-\left(1+2\sqrt{1+i}\right)\sqrt{1+x}}\Big]$$

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

$$\left((1+i)+\sqrt{1-i}\right)\mathrm{ArcTan}\Big[\Big((2-3\,i)+(3-i)\sqrt{1-i}-8\sqrt{1+x}-5\sqrt{1-i}\sqrt{1+x}+(2+5\,i)(1+x)+5\,i\sqrt{1-i}\,(1+x)+$$

$$4\sqrt{i-\sqrt{1-i}}\sqrt{x+\sqrt{1+x}}+2\sqrt{1-i}\sqrt{i-\sqrt{1-i}}\sqrt{x+\sqrt{1+x}}-$$

$$(6+2\,i)\sqrt{i-\sqrt{1-i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}-\frac{8\sqrt{i-\sqrt{1-i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}}{\sqrt{1-i}}\Big)\Big/$$

$$\left((-4+7\,i)-(6-2\,i)\sqrt{1-i}+(4-2\,i)\sqrt{1+x}+(6-2\,i)\sqrt{1-i}\sqrt{1+x}+(10+i)(1+x)+(8+4\,i)\sqrt{1-i}\,(1+x)\right)\Big]+$$

$$\frac{1}{2\sqrt{1-i}\sqrt{i+\sqrt{1-i}}}\left((-1-i)+\sqrt{1-i}\right)\mathrm{ArcTan}\Big[\Big((-2+3\,i)+(3-i)\sqrt{1-i}+8\sqrt{1+x}-5\sqrt{1-i}\sqrt{1+x}-$$

$$(2+5\,\mathrm{i})\,(1+x)+5\,\mathrm{i}\,\sqrt{1-\mathrm{i}}\,(1+x)-4\,\sqrt{\mathrm{i}+\sqrt{1-\mathrm{i}}}\,\sqrt{x+\sqrt{1+x}}+2\,\sqrt{1-\mathrm{i}}\,\sqrt{\mathrm{i}+\sqrt{1-\mathrm{i}}}\,\sqrt{x+\sqrt{1+x}}+$$

$$(6+2\,\mathrm{i})\,\sqrt{\mathrm{i}+\sqrt{1-\mathrm{i}}}\,\sqrt{1+x}\,\sqrt{x+\sqrt{1+x}}-\frac{8\,\sqrt{\mathrm{i}+\sqrt{1-\mathrm{i}}}\,\sqrt{1+x}\,\sqrt{x+\sqrt{1+x}}}{\sqrt{1-\mathrm{i}}}\Bigg)\Big/$$

$$\left((4-7\,\mathrm{i})-(6-2\,\mathrm{i})\,\sqrt{1-\mathrm{i}}-(4-2\,\mathrm{i})\,\sqrt{1+x}+(6-2\,\mathrm{i})\,\sqrt{1-\mathrm{i}}\,\sqrt{1+x}-(10+\mathrm{i})\,(1+x)+(8+4\,\mathrm{i})\,\sqrt{1-\mathrm{i}}\,(1+x)\right)\Big]-$$

$$\frac{1}{2\,\sqrt{1+\mathrm{i}}\,\sqrt{\mathrm{i}-\sqrt{1+\mathrm{i}}}}\,\mathrm{i}\,\left((-1+\mathrm{i})+\sqrt{1+\mathrm{i}}\right)\,\mathrm{ArcTan}\Big[\Bigg(\Bigg((1+8\,\mathrm{i})-5\,(1+\mathrm{i})^{3/2}-(16+8\,\mathrm{i})\,\sqrt{1+x}+(10+5\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,\sqrt{1+x}+$$

$$(9-8\,\mathrm{i})\,(1+x)-(5-10\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,(1+x)-4\,\sqrt{\mathrm{i}-\sqrt{1+\mathrm{i}}}\,\sqrt{x+\sqrt{1+x}}+(4-2\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,\sqrt{\mathrm{i}-\sqrt{1+\mathrm{i}}}\,\sqrt{x+\sqrt{1+x}}-$$

$$8\,\sqrt{\mathrm{i}-\sqrt{1+\mathrm{i}}}\,\sqrt{1+x}\,\sqrt{x+\sqrt{1+x}}+(8-4\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,\sqrt{\mathrm{i}-\sqrt{1+\mathrm{i}}}\,\sqrt{1+x}\,\sqrt{x+\sqrt{1+x}}\Bigg)\Big/$$

$$\left((9+20\,\mathrm{i})-12\,(1+\mathrm{i})^{3/2}-(14+20\,\mathrm{i})\,\sqrt{1+x}+(22+12\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,\sqrt{1+x}+(6-15\,\mathrm{i})\,(1+x)+(2+12\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,(1+x)\right)\Big]-$$

$$\frac{1}{2\,\sqrt{1+\mathrm{i}}\,\sqrt{\mathrm{i}+\sqrt{1+\mathrm{i}}}}\,\mathrm{i}\,\left((1-\mathrm{i})+\sqrt{1+\mathrm{i}}\right)\,\mathrm{ArcTan}\Big[\Bigg(\Bigg((-1-8\,\mathrm{i})-5\,(1+\mathrm{i})^{3/2}+(16+8\,\mathrm{i})\,\sqrt{1+x}+(10+5\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,\sqrt{1+x}-$$

$$(9-8\,\mathrm{i})\,(1+x)-(5-10\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,(1+x)+4\,\sqrt{\mathrm{i}+\sqrt{1+\mathrm{i}}}\,\sqrt{x+\sqrt{1+x}}+(4-2\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,\sqrt{\mathrm{i}+\sqrt{1+\mathrm{i}}}\,\sqrt{x+\sqrt{1+x}}+$$

$$8\,\sqrt{\mathrm{i}+\sqrt{1+\mathrm{i}}}\,\sqrt{1+x}\,\sqrt{x+\sqrt{1+x}}+(8-4\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,\sqrt{\mathrm{i}+\sqrt{1+\mathrm{i}}}\,\sqrt{1+x}\,\sqrt{x+\sqrt{1+x}}\Bigg)\Big/$$

$$\left((-9-20\,\mathrm{i})-12\,(1+\mathrm{i})^{3/2}+(14+20\,\mathrm{i})\,\sqrt{1+x}+(22+12\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,\sqrt{1+x}-(6-15\,\mathrm{i})\,(1+x)+(2+12\,\mathrm{i})\,\sqrt{1+\mathrm{i}}\,(1+x)\right)\Big]+$$

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

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

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

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

$$\frac{1}{4\,\sqrt{1-\mathrm{i}}\,\sqrt{\mathrm{i}-\sqrt{1-\mathrm{i}}}}$$

$$i\left((1+i)+\sqrt{1-i}\right)\mathrm{Log}\Big[2\Big((5+17i)+14i\sqrt{1-i}-(10+22i)\sqrt{1+x}+(5-19i)\sqrt{1-i}\sqrt{1+x}-(25+2i)(1+x)-$$
$$(15+9i)\sqrt{1-i}(1+x)-(4-4i)\sqrt{i-\sqrt{1-i}}\sqrt{x+\sqrt{1+x}}-(6-2i)\sqrt{1-i}\sqrt{i-\sqrt{1-i}}\sqrt{x+\sqrt{1+x}}-$$
$$(8-8i)\sqrt{i-\sqrt{1-i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}-(12-4i)\sqrt{1-i}\sqrt{i-\sqrt{1-i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}\Big)\Big]-$$
$$\frac{1}{4\sqrt{1-i}\sqrt{i+\sqrt{1-i}}}i\left((-1-i)+\sqrt{1-i}\right)\mathrm{Log}\Big[2\Big((-5-17i)+14i\sqrt{1-i}+(10+22i)\sqrt{1+x}+$$
$$(5-19i)\sqrt{1-i}\sqrt{1+x}+(25+2i)(1+x)-(15+9i)\sqrt{1-i}(1+x)+(4-4i)\sqrt{i+\sqrt{1-i}}\sqrt{x+\sqrt{1+x}}-$$
$$(6-2i)\sqrt{1-i}\sqrt{i+\sqrt{1-i}}\sqrt{x+\sqrt{1+x}}+(8-8i)\sqrt{i+\sqrt{1-i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}-$$
$$(12-4i)\sqrt{1-i}\sqrt{i+\sqrt{1-i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}\Big)\Big]-\frac{1}{4\sqrt{1+i}\sqrt{i-\sqrt{1+i}}}$$
$$\left((-1+i)+\sqrt{1+i}\right)\mathrm{Log}\Big[(4+2i)\Big((-3+5i)-(2+4i)\sqrt{1+i}+(2-2i)\sqrt{1+x}-(1-3i)\sqrt{1+i}\sqrt{1+x}-(8+7i)(1+x)+$$
$$(9+3i)\sqrt{1+i}(1+x)+(4+4i)\sqrt{i-\sqrt{1+i}}\sqrt{x+\sqrt{1+x}}-2(1+i)^{3/2}\sqrt{i-\sqrt{1+i}}\sqrt{x+\sqrt{1+x}}-$$
$$(8+4i)\sqrt{i-\sqrt{1+i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}+8\sqrt{1+i}\sqrt{i-\sqrt{1+i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}\Big)\Big]-\frac{1}{4\sqrt{1+i}\sqrt{i+\sqrt{1+i}}}$$
$$\left((1-i)+\sqrt{1+i}\right)\mathrm{Log}\Big[(4+2i)\Big((3-5i)-(2+4i)\sqrt{1+i}-(2-2i)\sqrt{1+x}-(1-3i)\sqrt{1+i}\sqrt{1+x}+(8+7i)(1+x)+$$
$$(9+3i)\sqrt{1+i}(1+x)-(4+4i)\sqrt{i+\sqrt{1+i}}\sqrt{x+\sqrt{1+x}}-2(1+i)^{3/2}\sqrt{i+\sqrt{1+i}}\sqrt{x+\sqrt{1+x}}+$$
$$(8+4i)\sqrt{i+\sqrt{1+i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}+8\sqrt{1+i}\sqrt{i+\sqrt{1+i}}\sqrt{1+x}\sqrt{x+\sqrt{1+x}}\Big)\Big]$$

Unable to integrate:

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

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

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

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

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

Unable to integrate:

$$\left\{\frac{\sqrt{x+\sqrt{1+x}}}{x^2},\ x,\ 12,\ 0\right\}$$

$$\frac{5}{4\left(2-\sqrt{1+x}-\sqrt{x+\sqrt{1+x}}\right)}-\frac{1}{4\left(\sqrt{1+x}+\sqrt{x+\sqrt{1+x}}\right)}-$$

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

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

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

Valid but unnecessarily complicated antiderivative:

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

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\sqrt{1+e^{-x}}\,\text{Csch}[x],\ x,\ 4,\ 0\right\}$$

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{(\text{Cos}[x]+\text{Cos}[3\,x])^5},\ x,\ 28,\ 0\right\}$$

$$-\frac{523}{256}\text{ArcTanh}[\text{Sin}[x]]+\frac{1483\,\text{ArcTanh}\left[\sqrt{2}\ \text{Sin}[x]\right]}{512\sqrt{2}}+\frac{\text{Sin}[x]}{32\left(1-2\,\text{Sin}[x]^2\right)^4}-$$
$$\frac{17\,\text{Sin}[x]}{192\left(1-2\,\text{Sin}[x]^2\right)^3}+\frac{203\,\text{Sin}[x]}{768\left(1-2\,\text{Sin}[x]^2\right)^2}-\frac{437\,\text{Sin}[x]}{512\left(1-2\,\text{Sin}[x]^2\right)}-\frac{43}{256}\text{Sec}[x]\,\text{Tan}[x]-\frac{1}{128}\text{Sec}[x]^3\,\text{Tan}[x]$$

$$\frac{\left(\frac{1483}{2048}-\frac{1483\,i}{2048}\right)\left((1-i)+\sqrt{2}\right)\text{ArcTan}\left[\frac{\text{Cos}\left[\frac{x}{2}\right]-\text{Sin}\left[\frac{x}{2}\right]-\sqrt{2}\ \text{Sin}\left[\frac{x}{2}\right]}{-\text{Cos}\left[\frac{x}{2}\right]+\sqrt{2}\ \text{Cos}\left[\frac{x}{2}\right]-\text{Sin}\left[\frac{x}{2}\right]}\right]}{(1+i)+\sqrt{2}}-\frac{1483\,i\,\text{ArcTan}\left[\frac{\text{Cos}\left[\frac{x}{2}\right]+\text{Sin}\left[\frac{x}{2}\right]-\sqrt{2}\ \text{Sin}\left[\frac{x}{2}\right]}{\text{Cos}\left[\frac{x}{2}\right]+\sqrt{2}\ \text{Cos}\left[\frac{x}{2}\right]-\text{Sin}\left[\frac{x}{2}\right]}\right]}{1024\sqrt{2}}+$$

$$\frac{523}{256}\text{Log}\left[\text{Cos}\left[\frac{x}{2}\right]-\text{Sin}\left[\frac{x}{2}\right]\right]-\frac{523}{256}\text{Log}\left[\text{Cos}\left[\frac{x}{2}\right]+\text{Sin}\left[\frac{x}{2}\right]\right]+\frac{1483\,\text{Log}\left[\sqrt{2}+2\,\text{Sin}[x]\right]}{1024\sqrt{2}}-$$

$$\frac{1483\,\text{Log}\left[2\left(2+\sqrt{2}\ \text{Cos}[x]-\sqrt{2}\ \text{Sin}[x]\right)\right]}{2048\sqrt{2}}-\frac{\left(\frac{1483}{4096}+\frac{1483\,i}{4096}\right)\left((1-i)+\sqrt{2}\right)\text{Log}\left[-2\left(-2+\sqrt{2}\ \text{Cos}[x]+\sqrt{2}\ \text{Sin}[x]\right)\right]}{(1+i)+\sqrt{2}}-$$

$$\frac{1}{512\left(\text{Cos}\left[\frac{x}{2}\right]-\text{Sin}\left[\frac{x}{2}\right]\right)^4}-\frac{43}{512\left(\text{Cos}\left[\frac{x}{2}\right]-\text{Sin}\left[\frac{x}{2}\right]\right)^2}+\frac{1}{512\left(\text{Cos}\left[\frac{x}{2}\right]+\text{Sin}\left[\frac{x}{2}\right]\right)^4}+\frac{43}{512\left(\text{Cos}\left[\frac{x}{2}\right]+\text{Sin}\left[\frac{x}{2}\right]\right)^2}-$$
$$\frac{17}{768\,(\text{Cos}[x]-\text{Sin}[x])^3}-\frac{437}{1024\,(\text{Cos}[x]-\text{Sin}[x])}+\frac{\text{Sin}[x]}{128\,(\text{Cos}[x]-\text{Sin}[x])^4}+\frac{83\,\text{Sin}[x]}{512\,(\text{Cos}[x]-\text{Sin}[x])^2}+$$
$$\frac{\text{Sin}[x]}{128\,(\text{Cos}[x]+\text{Sin}[x])^4}+\frac{17}{768\,(\text{Cos}[x]+\text{Sin}[x])^3}+\frac{83\,\text{Sin}[x]}{512\,(\text{Cos}[x]+\text{Sin}[x])^2}+\frac{437}{1024\,(\text{Cos}[x]+\text{Sin}[x])}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{1}{(1+\text{Cos}[x]+\text{Sin}[x])^2},\ x,\ 2,\ 0\right\}$$

$$-\text{Log}\left[1+\text{Tan}\left[\frac{x}{2}\right]\right]-\frac{\text{Cos}[x]-\text{Sin}[x]}{1+\text{Cos}[x]+\text{Sin}[x]}$$

$$\frac{1}{2}\left(2\,\text{Log}\left[2\,\text{Cos}\left[\frac{x}{2}\right]\right]-2\,\text{Log}\left[2\left(\text{Cos}\left[\frac{x}{2}\right]+\text{Sin}\left[\frac{x}{2}\right]\right)\right]+\frac{(1+i)\left(i\,\text{Cos}\left[\frac{x}{2}\right]+\text{Sin}\left[\frac{x}{2}\right]\right)}{\text{Cos}\left[\frac{x}{2}\right]+\text{Sin}\left[\frac{x}{2}\right]}+\text{Tan}\left[\frac{x}{2}\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\sqrt{1+\text{Tanh}[4\,x]},\ x,\ 1,\ 0\right\}$$

$$\frac{\text{ArcTanh}\left[\frac{\sqrt{1+\text{Tanh}[4\,x]}}{\sqrt{2}}\right]}{2\sqrt{2}}$$

$$\frac{\text{ArcSinh}[\text{Cosh}[4x]+\text{Sinh}[4x]]\,(\text{Cosh}[2x]-\text{Sinh}[2x])\sqrt{1+\text{Cosh}[8x]+\text{Sinh}[8x]}\,\sqrt{1+\text{Tanh}[4x]}}{4\,(\text{Cosh}[x]+\text{Sinh}[x])^2}$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{\text{Tanh}[x]}{\sqrt{e^x+e^{2x}}},\,x,\,7,\,0\right\}$$

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

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

Valid but unnecessarily complicated antiderivative:

$$\left\{\sqrt{\text{Sech}[x]\,\text{Sinh}[2x]},\,x,\,4,\,0\right\}$$

$$\frac{2i\sqrt{2}\,\text{EllipticE}\left[\frac{\pi}{4}-\frac{ix}{2},\,2\right]\sqrt{\text{Sinh}[x]}}{\sqrt{i\,\text{Sinh}[x]}}$$

$$\frac{1}{\sqrt{\text{Tanh}\left[\frac{x}{2}\right]}}2\sqrt{\frac{1}{1+\text{Cosh}[x]}}\sqrt{\text{Sinh}[x]}$$
$$\left(-2\,\text{EllipticE}\left[\text{ArcSin}\left[\sqrt{\text{Tanh}\left[\frac{x}{2}\right]}\right],-1\right]+2\,\text{EllipticF}\left[\text{ArcSin}\left[\sqrt{\text{Tanh}\left[\frac{x}{2}\right]}\right],-1\right]+\sqrt{\text{Sech}\left[\frac{x}{2}\right]^2\,\text{Sinh}[x]\,\sqrt{\text{Tanh}\left[\frac{x}{2}\right]}}\right)$$

Unable to integrate:

$$\left\{\text{Log}\left[x^2+\sqrt{1-x^2}\right],\,x,\,20,\,0\right\}$$

$$-\frac{4x\left(1-\sqrt{1-x^2}\right)}{x^2+\left(1-\sqrt{1-x^2}\right)^2}-2\,\text{ArcTan}\left[\frac{1-\sqrt{1-x^2}}{x}\right]+\frac{4}{5}\sqrt{10+5\sqrt{5}}\,\text{ArcTan}\left[\frac{\sqrt{2+\sqrt{5}}\left(1-\sqrt{1-x^2}\right)}{x}\right]-$$
$$\frac{1}{5}\sqrt{10+10\sqrt{5}}\,\text{ArcTan}\left[\frac{\sqrt{2+\sqrt{5}}\left(1-\sqrt{1-x^2}\right)}{x}\right]+\frac{4}{5}\sqrt{-10+5\sqrt{5}}\,\text{ArcTanh}\left[\frac{\sqrt{-2+\sqrt{5}}\left(1-\sqrt{1-x^2}\right)}{x}\right]+$$
$$\frac{1}{5}\sqrt{-10+10\sqrt{5}}\,\text{ArcTanh}\left[\frac{\sqrt{-2+\sqrt{5}}\left(1-\sqrt{1-x^2}\right)}{x}\right]+x\,\text{Log}\left[x^2+\sqrt{1-x^2}\right]$$

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

Unable to integrate:

$$\left\{\frac{\text{Log}[1+e^x]}{1+e^{2x}}, x, 7, 0\right\}$$

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

$$\int \frac{\text{Log}[1+e^x]}{1+e^{2x}} dx$$

Unable to integrate:

$$\left\{\text{Cosh}[x]\,\text{Log}\left[1+\text{Cosh}[x]^2\right]^2, x, 2, 0\right\}$$

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

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

Unable to integrate:

$$\left\{\frac{\text{Log}\left[x+\sqrt{1+x}\right]}{x}, x, 20, 0\right\}$$

$$\text{Log}\left[-1-\sqrt{1+x}\right]\text{Log}\left[x+\sqrt{1+x}\right]+\text{Log}\left[-1+\sqrt{1+x}\right]\text{Log}\left[x+\sqrt{1+x}\right]-\text{Log}\left[-1-\sqrt{1+x}\right]\text{Log}\left[\frac{1}{4}\left(1-\sqrt{5}\right)\left(1-\sqrt{5}+2\sqrt{1+x}\right)\right]-\text{Log}\left[-1+\sqrt{1+x}\right]\text{Log}\left[\frac{1}{4}\left(3+\sqrt{5}\right)\left(1-\sqrt{5}+2\sqrt{1+x}\right)\right]-\text{Log}\left[-1+\sqrt{1+x}\right]\text{Log}\left[\frac{1}{4}\left(3-\sqrt{5}\right)\left(1+\sqrt{5}+2\sqrt{1+x}\right)\right]-\text{Log}\left[-1-\sqrt{1+x}\right]\text{Log}\left[\frac{1}{4}\left(1+\sqrt{5}\right)\left(1+\sqrt{5}+2\sqrt{1+x}\right)\right]-\text{PolyLog}\left[2,\frac{1}{2}\left(3-\sqrt{5}\right)\left(1-\sqrt{1+x}\right)\right]-\text{PolyLog}\left[2,\frac{1}{2}\left(3+\sqrt{5}\right)\left(1-\sqrt{1+x}\right)\right]-\text{PolyLog}\left[2,-\frac{1}{2}\left(1-\sqrt{5}\right)\left(1+\sqrt{1+x}\right)\right]-\text{PolyLog}\left[2,-\frac{1}{2}\left(1+\sqrt{5}\right)\left(1+\sqrt{1+x}\right)\right]$$

$$\int \frac{\text{Log}\left[x+\sqrt{1+x}\right]}{x} dx$$

Valid but unnecessarily complicated antiderivative:

$$\{\text{ArcTan}[2\,\text{Tan}[x]], x, 10, 0\}$$

$$x\,\text{ArcTan}[2\,\text{Tan}[x]]+\frac{1}{2}i\,x\,\text{Log}\left[1-3\,e^{2ix}\right]-\frac{1}{2}i\,x\,\text{Log}\left[1-\frac{1}{3}e^{2ix}\right]-\frac{1}{4}\text{PolyLog}\left[2,\frac{1}{3}e^{2ix}\right]+\frac{1}{4}\text{PolyLog}\left[2,3\,e^{2ix}\right]$$

$$x\,\text{ArcTan}[2\,\text{Tan}[x]] - \frac{1}{4}\,i\,\Bigg(4\,i\,x\,\text{ArcTan}\Big[\frac{\text{Cot}[x]}{2}\Big] + 2\,i\,\text{ArcCos}\Big[\frac{5}{3}\Big]\,\text{ArcTan}[2\,\text{Tan}[x]] + \Big(\text{ArcCos}\Big[\frac{5}{3}\Big] + 2\,\text{ArcTan}\Big[\frac{\text{Cot}[x]}{2}\Big] + 2\,\text{ArcTan}[2\,\text{Tan}[x]]\Big)$$

$$\text{Log}\Big[\frac{2\,i\,\sqrt{\frac{2}{3}}\,e^{-i\,x}}{\sqrt{-5+3\,\text{Cos}[2\,x]}}\Big] + \Big(\text{ArcCos}\Big[\frac{5}{3}\Big] - 2\,\text{ArcTan}\Big[\frac{\text{Cot}[x]}{2}\Big] - 2\,\text{ArcTan}[2\,\text{Tan}[x]]\Big)\,\text{Log}\Big[\frac{2\,i\,\sqrt{\frac{2}{3}}\,e^{i\,x}}{\sqrt{-5+3\,\text{Cos}[2\,x]}}\Big] -$$

$$\Big(\text{ArcCos}\Big[\frac{5}{3}\Big] - 2\,\text{ArcTan}[2\,\text{Tan}[x]]\Big)\,\text{Log}\Big[\frac{4\,i - 4\,\text{Tan}[x]}{i + 2\,\text{Tan}[x]}\Big] - \Big(\text{ArcCos}\Big[\frac{5}{3}\Big] + 2\,\text{ArcTan}[2\,\text{Tan}[x]]\Big)\,\text{Log}\Big[\frac{4\,(i + \text{Tan}[x])}{3\,i + 6\,\text{Tan}[x]}\Big] +$$

$$i\,\Big(-\text{PolyLog}\Big[2,\ \frac{-3\,i + 6\,\text{Tan}[x]}{i + 2\,\text{Tan}[x]}\Big] + \text{PolyLog}\Big[2,\ \frac{-i + 2\,\text{Tan}[x]}{3\,i + 6\,\text{Tan}[x]}\Big]\Big)\Bigg)$$

Unable to integrate:

$$\Big\{\frac{\text{ArcTan}[x]\,\text{Log}[x]}{x},\ x,\ 5,\ 0\Big\}$$

$$\frac{1}{2}\,i\,\text{Log}[x]\,(\text{PolyLog}[2, -i\,x] - \text{PolyLog}[2, i\,x]) - \frac{1}{2}\,i\,\text{PolyLog}[3, -i\,x] + \frac{1}{2}\,i\,\text{PolyLog}[3, i\,x]$$

$$\int \frac{\text{ArcTan}[x]\,\text{Log}[x]}{x}\,dx$$

Unable to integrate:

$$\Big\{\sqrt{1+x^2}\,\text{ArcTan}[x]^2,\ x,\ 11,\ 0\Big\}$$

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

$$i\,\text{ArcTan}\Big[e^{i\,\text{ArcTan}[x]}\Big]\,\text{ArcTan}[x]^2 + \text{ArcTanh}\Big[\frac{x}{\sqrt{1+x^2}}\Big] + i\,\text{ArcTan}[x]\,\text{PolyLog}\Big[2, -i\,e^{i\,\text{ArcTan}[x]}\Big] -$$

$$i\,\text{ArcTan}[x]\,\text{PolyLog}\Big[2, i\,e^{i\,\text{ArcTan}[x]}\Big] - \text{PolyLog}\Big[3, -i\,e^{i\,\text{ArcTan}[x]}\Big] + \text{PolyLog}\Big[3, i\,e^{i\,\text{ArcTan}[x]}\Big]$$

$$\int \sqrt{1+x^2}\,\text{ArcTan}[x]^2\,dx$$

Valid but unnecessarily complicated antiderivative:

$$\Big\{\frac{-2\,\text{Log}\Big[-\sqrt{-1+a\,x}\Big] + \text{Log}[-1+a\,x]}{2\,\pi\,\sqrt{-1+a\,x}},\ x,\ 5,\ 0\Big\}$$

$$-\frac{2\,\sqrt{1-a\,x}}{a}$$

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

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{1}{18}\left(\frac{24\,x}{1-3\,x^2}+\frac{12\sqrt{1+x^2}}{-1+3\,x^2}+\sqrt{3}\,\mathrm{Log}\left[\sqrt{3}-3\,x\right]-\sqrt{3}\,\mathrm{Log}\left[\sqrt{3}+3\,x\right]-\sqrt{3}\,\mathrm{Log}\left[6-6\sqrt{3}\,x\right]-\right.$$
$$\left.\sqrt{3}\,\mathrm{Log}\left[6+6\sqrt{3}\,x\right]+\sqrt{3}\,\mathrm{Log}\left[9\left(-3+\sqrt{3}\,x-2\sqrt{3}\sqrt{1+x^2}\right)\right]+\sqrt{3}\,\mathrm{Log}\left[9\left(3+\sqrt{3}\,x+2\sqrt{3}\sqrt{1+x^2}\right)\right]\right)$$

Valid but unnecessarily complicated antiderivative:

$$\left\{\frac{\sqrt{-1+x^2}}{(-i+x)^2},\ x,\ -9,\ 0\right\}$$

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

$$\frac{1}{4}\left(-\frac{4\sqrt{-1+x^2}}{-i+x}-2\,i\sqrt{2}\,\mathrm{ArcTan}\left[\frac{1}{2}\left(-i+x-\sqrt{2}\sqrt{-1+x^2}\right)\right]+4\,\mathrm{ArcTanh}\left[\frac{2\,x}{i-x+\sqrt{-1+x^2}}\right]-\right.$$
$$\left.\sqrt{2}\,\mathrm{Log}[-i+x]+\sqrt{2}\,\mathrm{Log}\left[2\,i+6\,x-4\sqrt{2}\sqrt{-1+x^2}\right]+2\,\mathrm{Log}\left[-4+8\,x^2-8\,i\sqrt{-1+x^2}+8\,x\left(-i+\sqrt{-1+x^2}\right)\right]\right)$$

Valid but unnecessarily complicated antiderivative:

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

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

$$\frac{-8\,x\sqrt{-1+x^2}-3\sqrt{2}\left(1+x^2\right)\mathrm{Log}\left[-1+3\,x^2-2\sqrt{2}\,x\sqrt{-1+x^2}\right]+3\sqrt{2}\left(1+x^2\right)\mathrm{Log}\left[-1+3\,x^2+2\sqrt{2}\,x\sqrt{-1+x^2}\right]}{32\left(1+x^2\right)}$$

Unable to integrate:

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

$$\frac{2-4\,x}{5\left(\sqrt{x}+\sqrt{-1+x^2}\right)}+\frac{1}{25}\sqrt{-110+50\sqrt{5}}\,\mathrm{ArcTan}\left[\frac{1}{2}\sqrt{2+2\sqrt{5}}\sqrt{x}\right]-\frac{1}{50}\sqrt{-110+50\sqrt{5}}\,\mathrm{ArcTan}\left[\frac{\sqrt{-2+2\sqrt{5}}\sqrt{-1+x^2}}{2-\left(1-\sqrt{5}\right)x}\right]-$$
$$\frac{1}{25}\sqrt{110+50\sqrt{5}}\,\mathrm{ArcTanh}\left[\frac{1}{2}\sqrt{-2+2\sqrt{5}}\sqrt{x}\right]-\frac{1}{50}\sqrt{110+50\sqrt{5}}\,\mathrm{ArcTanh}\left[\frac{\sqrt{2+2\sqrt{5}}\sqrt{-1+x^2}}{2-x-\sqrt{5}\,x}\right]$$

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

Unable to integrate:

$$\left\{\frac{\left(\sqrt{x}-\sqrt{-1+x^2}\right)^2}{\left(1+x-x^2\right)^2\sqrt{-1+x^2}},\ x,\ -50,\ 0\right\}$$

$$\frac{2-4x}{5\left(\sqrt{x}+\sqrt{-1+x^2}\right)}+\frac{1}{25}\sqrt{-110+50\sqrt{5}}\ \text{ArcTan}\left[\frac{1}{2}\sqrt{2+2\sqrt{5}}\ \sqrt{x}\right]-\frac{1}{50}\sqrt{-110+50\sqrt{5}}\ \text{ArcTan}\left[\frac{\sqrt{-2+2\sqrt{5}}\ \sqrt{-1+x^2}}{2-\left(1-\sqrt{5}\right)x}\right]-$$
$$\frac{1}{25}\sqrt{110+50\sqrt{5}}\ \text{ArcTanh}\left[\frac{1}{2}\sqrt{-2+2\sqrt{5}}\ \sqrt{x}\right]-\frac{1}{50}\sqrt{110+50\sqrt{5}}\ \text{ArcTanh}\left[\frac{\sqrt{2+2\sqrt{5}}\ \sqrt{-1+x^2}}{2-x-\sqrt{5}\,x}\right]$$

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

Incorrect antiderivative:

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

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

$$-\frac{1}{4\sqrt{2}\,(1+x)}\left((2+2i)\sqrt{-i+x^2}+(2-2i)\sqrt{i+x^2}+2\sqrt{1-i}\,(1+x)\,\text{ArcTan}\left[\frac{1+x^2+2i\sqrt{1-i}\,\sqrt{-i+x^2}}{(1-2i)-2ix+x^2}\right]+\right.$$
$$2\sqrt{1+i}\,(1+x)\,\text{ArcTan}\left[\frac{1+x^2-2i\sqrt{1+i}\,\sqrt{i+x^2}}{(1+2i)+2ix+x^2}\right]-i\sqrt{1-i}\,\text{Log}\left[(1+x)^2\right]+i\sqrt{1+i}\,\text{Log}\left[(1+x)^2\right]-$$
$$i\sqrt{1-i}\,x\,\text{Log}\left[(1+x)^2\right]+i\sqrt{1+i}\,x\,\text{Log}\left[(1+x)^2\right]+i\sqrt{1-i}\,\text{Log}\left[(4-4i)+(12+4i)x^2-\frac{16x\sqrt{-i+x^2}}{\sqrt{1-i}}\right]+$$
$$i\sqrt{1-i}\,x\,\text{Log}\left[(4-4i)+(12+4i)x^2-\frac{16x\sqrt{-i+x^2}}{\sqrt{1-i}}\right]-i\sqrt{1+i}\,\text{Log}\left[(4+4i)\left(1+(1-2i)x^2+2i\sqrt{1+i}\,x\sqrt{i+x^2}\right)\right]-$$
$$\left.i\sqrt{1+i}\,x\,\text{Log}\left[(4+4i)\left(1+(1-2i)x^2+2i\sqrt{1+i}\,x\sqrt{i+x^2}\right)\right]\right)$$

Unable to integrate:

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

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

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

Unable to integrate:

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

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

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

Valid but unnecessarily complicated antiderivative:

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

$$\frac{\text{ArcTanh}\left[\frac{\sqrt{2}\ x}{\sqrt{x^2+\sqrt{1+x^4}}}\right]}{\sqrt{2}}$$

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

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

$$\left(\sqrt{2}\ \sqrt{x^2+\sqrt{1+x^4}}\ \left(1+13\,x^4+28\,x^8+16\,x^{12}+5\,x^2\sqrt{1+x^4}+20\,x^6\sqrt{1+x^4}+16\,x^{10}\sqrt{1+x^4}\right)\left(\sqrt{2}\ x^2+\sqrt{x^2\left(x^2+\sqrt{1+x^4}\right)}\right)\right)$$

Unable to integrate:

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

$$\frac{\text{ArcTan}\left[\frac{\sqrt{2}\ x}{\sqrt{-x^2+\sqrt{1+x^4}}}\right]}{\sqrt{2}}$$

$$\int \frac{\sqrt{-x^2+\sqrt{1+x^4}}}{\sqrt{1+x^4}}\,dx$$