"ExponentialPowerRV(2,3)"

$$[x \mapsto 6\,\mathrm{e}^{1-\mathrm{e}^{2\,x^3}}\,\mathrm{e}^{2\,x^3}x^2]$$

$$t \mapsto t^2$$

Probability Distribution Function

$$f(x) = 3\,\mathrm{e}^{1-\mathrm{e}^{2\,x^{3/2}}+2\,x^{3/2}}\sqrt{x}$$

Cumulative Distribution Function

$$F(x) = 1 - \mathrm{e}^{1-\mathrm{e}^{2\,x^{3/2}}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto 1/2\,\sqrt[3]{2}\,(\ln(1-\ln(1-s)))^{2/3}]$$

Survivor Function

$$S(x) = \mathrm{e}^{1-\mathrm{e}^{2\,x^{3/2}}}$$

Hazard Function

$$h(x) = 3\,\mathrm{e}^{2\,x^{3/2}}\sqrt{x}$$

Mean

$$mu = \int_0^\infty 3\,x^{3/2}\mathrm{e}^{1-\mathrm{e}^{2\,x^{3/2}}+2\,x^{3/2}}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_0^\infty 3\,x^{5/2}\mathrm{e}^{1-\mathrm{e}^{2\,x^{3/2}}+2\,x^{3/2}}\,\mathrm{d}x - \left(\int_0^\infty 3\,x^{3/2}\mathrm{e}^{1-\mathrm{e}^{2\,x^{3/2}}+2\,x^{3/2}}\,\mathrm{d}x\right)^2$$

Moment Function

$$m(x) = \int_0^\infty 3\,x^r\mathrm{e}^{1-\mathrm{e}^{2\,x^{3/2}}+2\,x^{3/2}}\sqrt{x}\,\mathrm{d}x$$

Moment Generating Function

$$\int_0^\infty 3\,\sqrt{x}\mathrm{e}^{tx+1-\mathrm{e}^{2\,x^{3/2}}+2\,x^{3/2}}\,\mathrm{d}x_1$$

$$t \mapsto \sqrt{t}$$

Probability Distribution Function

$$f(x) = 12\,\mathrm{e}^{1-\mathrm{e}^{2\,x^6}+2\,x^6}x^5$$

Cumulative Distribution Function

$$F(x) = 1 - \mathrm{e}^{1-\mathrm{e}^{2\,x^6}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto 1/2\,2^{5/6}\sqrt[6]{\ln(1-\ln(1-s))}]$$

Survivor Function

$$S(x) = \mathrm{e}^{1-\mathrm{e}^{2\,x^6}}$$

Hazard Function

$$h(x) = 12\,\mathrm{e}^{2\,x^6}x^5$$

Mean

$$mu = \int_0^\infty 12\,x^6\mathrm{e}^{1-\mathrm{e}^{2\,x^6}+2\,x^6}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_0^\infty 12\,x^7\mathrm{e}^{1-\mathrm{e}^{2\,x^6}+2\,x^6}\,\mathrm{d}x - \left(\int_0^\infty 12\,x^6\mathrm{e}^{1-\mathrm{e}^{2\,x^6}+2\,x^6}\,\mathrm{d}x\right)^2$$

Moment Function

$$m(x) = \int_0^\infty 12\,x^r\mathrm{e}^{1-\mathrm{e}^{2\,x^6}+2\,x^6}x^5\,\mathrm{d}x$$

Moment Generating Function

$$\int_0^\infty 12\,x^5\mathrm{e}^{tx+1-\mathrm{e}^{2\,x^6}+2\,x^6}\,\mathrm{d}x_1$$

$$t \mapsto t^{-1}$$

Probability Distribution Function

$$f(x) = 6\,\frac{1}{x^4}\mathrm{e}^{-\frac{1}{x^3}\left(\mathrm{e}^{2\,x^{-3}}x^3 - x^3 - 2\right)}$$

Cumulative Distribution Function

$$F(x) = \mathrm{e}^{-\mathrm{e}^{2\,x^{-3}}+1}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \frac{\sqrt[3]{2}\sqrt[3]{\left(\ln\left(1-\ln\left(s\right)\right)\right)^2}}{\ln\left(1-\ln\left(s\right)\right)}]$$

Survivor Function

$$S(x) = 1 - \mathrm{e}^{-\mathrm{e}^{2\,x^{-3}}+1}$$

Hazard Function

$$h(x) = -6\,\frac{1}{x^4}\mathrm{e}^{-\frac{1}{x^3}\left(\mathrm{e}^{2\,x^{-3}}x^3 - x^3 - 2\right)}\left(-1 + \mathrm{e}^{-\mathrm{e}^{2\,x^{-3}}+1}\right)^{-1}$$

Mean

$$mu = \int_0^\infty 6\,\frac{1}{x^3}\mathrm{e}^{-\frac{1}{x^3}\left(\mathrm{e}^{2\,x^{-3}}x^3 - x^3 - 2\right)}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_0^\infty 6\,\frac{1}{x^2}\mathrm{e}^{-\frac{1}{x^3}\left(\mathrm{e}^{2\,x^{-3}}x^3 - x^3 - 2\right)}\,\mathrm{d}x - \left(\int_0^\infty 6\,\frac{1}{x^3}\mathrm{e}^{-\frac{1}{x^3}\left(\mathrm{e}^{2\,x^{-3}}x^3 - x^3 - 2\right)}\,\mathrm{d}x\right)^2$$

Moment Function

$$m(x) = \int_0^\infty 6\,\frac{x^r}{x^4}\mathrm{e}^{-\frac{1}{x^3}\left(\mathrm{e}^{2\,x^{-3}}x^3 - x^3 - 2\right)}\,\mathrm{d}x$$

Moment Generating Function

$$\int_0^\infty 6\,\frac{1}{x^4}\mathrm{e}^{-\frac{1}{x^3}\left(-tx^4 + \mathrm{e}^{2\,x^{-3}}x^3 - x^3 - 2\right)}\,\mathrm{d}x_1$$

$$t \mapsto \arctan\left(t\right)$$

Probability Distribution Function

$$f(x) = 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}+2\,(\tan(x))^3}\,(\tan(x))^2\left(1+(\tan(x))^2\right)$$

Cumulative Distribution Function

$$F(x) = \begin{cases} 1-\mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}} & x \leq \pi/2 \\ \mathrm{e}\left\lfloor -1/2\,\frac{-2\,x+\pi}{\pi}\right\rfloor + \mathrm{e} + 1 - \mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}} & \pi/2 < x \end{cases}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \mathit{RootOf}\left(-\mathrm{e}\left\lfloor -1/2\,\frac{-2\,\_Z+\pi}{\pi}\right\rfloor - \mathrm{e} - 1 + \mathrm{e}^{1-\mathrm{e}^{2\,(\tan(\_Z))^3}} + s\right)]$$

Survivor Function

$$S(x) = \begin{cases} \mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}} & x \leq \pi/2 \\ -\mathrm{e}\left\lfloor -1/2\,\frac{-2\,x+\pi}{\pi}\right\rfloor - \mathrm{e} + \mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}} & \pi/2 < x \end{cases}$$

Hazard Function

$$h(x) = \begin{cases} 6\,\frac{(\sin(x))^2}{(\cos(x))^4}\mathrm{e}^{2\,\frac{(\sin(x))^3}{(\cos(x))^3}} \\ -6\,\frac{(\sin(x))^2}{(\cos(x))^4}\mathrm{e}^{-\frac{1}{(\cos(x))^3}\left(\mathrm{e}^{2\,\frac{(\sin(x))^3}{(\cos(x))^3}}(\cos(x))^3+2\,\sin(x)(\cos(x))^2-(\cos(x))^3-2\,\sin(x)\right)}\left(\mathrm{e}\left\lfloor -1/2\,\frac{-2\,x+\pi}{\pi}\right\rfloor + \right. \end{cases}$$

Mean

$$mu = 6\int_0^{\pi/2} x\mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}+2\,(\tan(x))^3}\,(\tan(x))^2\left(1+(\tan(x))^2\right)\,\mathrm{d}x$$

Variance

$$sigma^2 = 6\int_0^{\pi/2} x^2\mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}+2\,(\tan(x))^3}\,(\tan(x))^2\left(1+(\tan(x))^2\right)\,\mathrm{d}x - 36\left(\int_0^{\pi/2} x\mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}+2}\right.$$

Moment Function

$$m(x) = \int_0^{\pi/2} 6\,x^r\mathrm{e}^{1-\mathrm{e}^{2\,(\tan(x))^3}+2\,(\tan(x))^3}\,(\tan(x))^2\left(1+(\tan(x))^2\right)\,\mathrm{d}x$$

Moment Generating Function

$$6\int_0^{\pi/2} (\tan(x))^2 \left(1+(\tan(x))^2\right) \mathrm{e}^{tx+1-\mathrm{e}^{2\,(\tan(x))^3}+2\,(\tan(x))^3}\,\mathrm{d}x_1$$

$$t \mapsto \mathrm{e}^t$$

Probability Distribution Function

$$f(x) = 6\,\frac{\mathrm{e}^{1-\mathrm{e}^{2\,(\ln(x))^3}+2\,(\ln(x))^3}\,(\ln(x))^2}{x}$$

Cumulative Distribution Function

$$F(x) = 1-\mathrm{e}^{1-\mathrm{e}^{2\,(\ln(x))^3}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \mathrm{e}^{1/2\,2^{2/3}\sqrt[3]{\ln(1-\ln(1-s))}}]$$

Survivor Function

$$S(x) = \mathrm{e}^{1-\mathrm{e}^{2\,(\ln(x))^3}}$$

Hazard Function

$$h(x) = 6\,\frac{\mathrm{e}^{2\,(\ln(x))^3}\,(\ln(x))^2}{x}$$

Mean

$$mu = \int_1^{\infty} 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\ln(x))^3}+2\,(\ln(x))^3}\,(\ln(x))^2\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_1^{\infty} 6\,x\mathrm{e}^{1-\mathrm{e}^{2\,(\ln(x))^3}+2\,(\ln(x))^3}\,(\ln(x))^2\,\mathrm{d}x - \left(\int_1^{\infty} 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\ln(x))^3}+2\,(\ln(x))^3}\,(\ln(x))^2\,\mathrm{d}x\right)^2$$

Moment Function

$$m(x) = \int_1^{\infty} 6\,\frac{x^r\mathrm{e}^{1-\mathrm{e}^{2\,(\ln(x))^3}+2\,(\ln(x))^3}\,(\ln(x))^2}{x}\,\mathrm{d}x$$

Moment Generating Function

$$\int_{1}^{\infty} 6\,{\frac {(\ln(x))^{2}{{\rm e}^{tx+1-{{\rm e}^{2\,(\ln(x))^{3}}}+2\,(\ln(x))^{3}}}}{x}}\,{\rm d}x_{1}$$

$$t\mapsto \ln(t)$$

Probability Distribution Function

$$f(x)=6\,{{\rm e}^{1-{{\rm e}^{2\,{{\rm e}^{3\,x}}}}+2\,{{\rm e}^{3\,x}}+3\,x}}$$

Cumulative Distribution Function

$$F(x)=1-{{\rm e}^{1-{{\rm e}^{2\,{{\rm e}^{3\,x}}}}}}$$

Inverse Cumulative Distribution Function

$$F^{-1}=[s\mapsto -1/3\,\ln(2)+1/3\,\ln(\ln(1-\ln(1-s)))]$$

Survivor Function

$$S(x)={{\rm e}^{1-{{\rm e}^{2\,{{\rm e}^{3\,x}}}}}}$$

Hazard Function

$$h(x)=6\,{{\rm e}^{2\,{{\rm e}^{3\,x}}+3\,x}}$$

Mean

$$mu=\int_{-\infty}^{\infty} 6\,x{{\rm e}^{1-{{\rm e}^{2\,{{\rm e}^{3\,x}}}}+2\,{{\rm e}^{3\,x}}+3\,x}}\,{\rm d}x$$

Variance

$$sigma^{2}=\int_{-\infty}^{\infty} 6\,x^{2}{{\rm e}^{1-{{\rm e}^{2\,{{\rm e}^{3\,x}}}}+2\,{{\rm e}^{3\,x}}+3\,x}}\,{\rm d}x-\left(\int_{-\infty}^{\infty} 6\,x{{\rm e}^{1-{{\rm e}^{2\,{{\rm e}^{3\,x}}}}+2\,{{\rm e}^{3\,x}}+3\,x}}\,{\rm d}x\right)^{2}$$

Moment Function

$$m(x)=\int_{-\infty}^{\infty} 6\,x^{r}{{\rm e}^{1-{{\rm e}^{2\,{{\rm e}^{3\,x}}}}+2\,{{\rm e}^{3\,x}}+3\,x}}\,{\rm d}x$$

Moment Generating Function

$$\int_{-\infty}^{\infty} 6\,{{\rm e}^{tx+1-{{\rm e}^{2\,{{\rm e}^{3\,x}}}}+2\,{{\rm e}^{3\,x}}+3\,x}}\,{\rm d}x_{1}$$

$$t \mapsto e^{-t}$$

Probability Distribution Function

$$f(x) = 6\,\frac{e^{1-e^{-2\,(\ln(x))^3}-2\,(\ln(x))^3}\,(\ln(x))^2}{x}$$

Cumulative Distribution Function

$$F(x) = e^{-e^{-2\,(\ln(x))^3}+1}$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1 - e^{-e^{-2\,(\ln(x))^3}+1}$$

Hazard Function

$$h(x) = -6\,\frac{e^{1-e^{-2\,(\ln(x))^3}-2\,(\ln(x))^3}\,(\ln(x))^2}{x\left(-1+e^{-e^{-2\,(\ln(x))^3}+1}\right)}$$

Mean

$$mu = 6\int_0^1 e^{1-e^{-2\,(\ln(x))^3}-2\,(\ln(x))^3}\,(\ln(x))^2\,dx$$

Variance

$$sigma^2 = 6\int_0^1 xe^{1-e^{-2\,(\ln(x))^3}-2\,(\ln(x))^3}\,(\ln(x))^2\,dx - 36\left(\int_0^1 e^{1-e^{-2\,(\ln(x))^3}-2\,(\ln(x))^3}\,(\ln(x))^2\,dx\right)^2$$

Moment Function

$$m(x) = \int_0^1 6\,\frac{x^r e^{1-e^{-2\,(\ln(x))^3}-2\,(\ln(x))^3}\,(\ln(x))^2}{x}\,dx$$

Moment Generating Function

$$6\int_0^1 \frac{(\ln(x))^2\,e^{tx+1-e^{-2\,(\ln(x))^3}-2\,(\ln(x))^3}}{x}\,dx_1$$

$$t \mapsto -\ln(t)$$

Probability Distribution Function

$$f(x) = 6\,e^{1-e^{2\,e^{-3\,x}}+2\,e^{-3\,x}-3\,x}$$

Cumulative Distribution Function

$$F(x) = e^{-e^{2\,e^{-3\,x}}+1}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto 1/3\,\ln(2) - 1/3\,\ln(\ln(1-\ln(s)))]$$

Survivor Function

$$S(x) = 1 - e^{-e^{2\,e^{-3\,x}}+1}$$

Hazard Function

$$h(x) = -6\,\frac{e^{1-e^{2\,e^{-3\,x}}+2\,e^{-3\,x}-3\,x}}{-1+e^{-e^{2\,e^{-3\,x}}+1}}$$

Mean

$$mu = \int_{-\infty}^{\infty} 6\,x e^{1-e^{2\,e^{-3\,x}}+2\,e^{-3\,x}-3\,x}\,dx$$

Variance

$$sigma^2 = \int_{-\infty}^{\infty} 6\,x^2 e^{1-e^{2\,e^{-3\,x}}+2\,e^{-3\,x}-3\,x}\,dx - \left(\int_{-\infty}^{\infty} 6\,x e^{1-e^{2\,e^{-3\,x}}+2\,e^{-3\,x}-3\,x}\,dx\right)^2$$

Moment Function

$$m(x) = \int_{-\infty}^{\infty} 6\,x^r e^{1-e^{2\,e^{-3\,x}}+2\,e^{-3\,x}-3\,x}\,dx$$

Moment Generating Function

$$\int_{-\infty}^{\infty} 6\,e^{tx+1-e^{2\,e^{-3\,x}}+2\,e^{-3\,x}-3\,x}\,dx_1$$

$$t \mapsto \ln(t+1)$$

Probability Distribution Function

$$f(x) = 6\,\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}-\mathrm{e}^{2\,(\mathrm{e}^{x}-1)^{3}}+6\,\mathrm{e}^{x}+x-1}\,(\mathrm{e}^{x}-1)^{2}$$

Cumulative Distribution Function

$$F(x) = -\left(-\mathrm{e}^{\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}+6\,\mathrm{e}^{x}-2}}+\mathrm{e}\right)\mathrm{e}^{-\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}+6\,\mathrm{e}^{x}-2}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto -1/3\,\ln(2)+\ln\left(\sqrt[3]{\ln\left(\ln\left(-(-1+s)^{-1}\right)+1\right)}+\sqrt[3]{2}\right)]$$

Survivor Function

$$S(x) = \mathrm{e}^{-\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}+6\,\mathrm{e}^{x}-2}+1}$$

Hazard Function

$$h(x) = 6\,\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}-\mathrm{e}^{2\,(\mathrm{e}^{x}-1)^{3}}+6\,\mathrm{e}^{x}+x-2+\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}+6\,\mathrm{e}^{x}-2}}\,(\mathrm{e}^{x}-1)^{2}$$

Mean

$$mu = \int_0^{\infty} 6\,x\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}-\mathrm{e}^{2\,(\mathrm{e}^{x}-1)^{3}}+6\,\mathrm{e}^{x}+x-1}\,(\mathrm{e}^{x}-1)^{2}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_0^{\infty} 6\,x^2\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}-\mathrm{e}^{2\,(\mathrm{e}^{x}-1)^{3}}+6\,\mathrm{e}^{x}+x-1}\,(\mathrm{e}^{x}-1)^{2}\,\mathrm{d}x-\left(\int_0^{\infty} 6\,x\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}-\mathrm{e}^{2\,(\mathrm{e}^{x}-1)^{3}}+6\,\mathrm{e}^{x}+x-1}\right.$$

Moment Function

$$m(x) = \int_0^{\infty} 6\,x^r\mathrm{e}^{2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}-\mathrm{e}^{2\,(\mathrm{e}^{x}-1)^{3}}+6\,\mathrm{e}^{x}+x-1}\,(\mathrm{e}^{x}-1)^{2}\,\mathrm{d}x$$

Moment Generating Function

$$\int_0^{\infty} 6\,(\mathrm{e}^{x}-1)^{2}\,\mathrm{e}^{tx+2\,\mathrm{e}^{3\,x}-6\,\mathrm{e}^{2\,x}-\mathrm{e}^{2\,(\mathrm{e}^{x}-1)^{3}}+6\,\mathrm{e}^{x}+x-1}\,\mathrm{d}x_1$$

$$t \mapsto (\ln(t+2))^{-1}$$

Probability Distribution Function

$$f(x) = 6\,\frac{\left(e^{x^{-1}}-2\right)^2}{x^2} e^{\frac{1}{x}\left(2\,e^{3\,x^{-1}}x-12\,e^{2\,x^{-1}}x-e^{2\left(e^{x^{-1}}-2\right)^3}x+24\,e^{x^{-1}}x-15\,x+1\right)}$$

Cumulative Distribution Function

$$F(x) = e^{-\left(e^{2\,e^{3\,x^{-1}}+24\,e^{x^{-1}}-16}-e^{12\,e^{2\,x^{-1}}}\right)e^{-12\,e^{2\,x^{-1}}}}$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1-e^{-\left(e^{2\,e^{3\,x^{-1}}+24\,e^{x^{-1}}-16}-e^{12\,e^{2\,x^{-1}}}\right)e^{-12\,e^{2\,x^{-1}}}}$$

Hazard Function

$$h(x) = -6\,\frac{\left(e^{x^{-1}}-2\right)^2}{x^2} e^{-\frac{1}{x}\left(-2\,e^{3\,x^{-1}}x+12\,e^{2\,x^{-1}}x+e^{2\left(e^{x^{-1}}-2\right)^3}x-24\,e^{x^{-1}}x+15\,x-1\right)} \left(-1+e^{-e^{-12\,e^{2\,x^{-1}}+2\,e^{3\,x}}}\right.$$

Mean

$$mu = 6\int_0^{(\ln(2))^{-1}} \frac{\left(e^{x^{-1}}-2\right)^2}{x} e^{-\frac{1}{x}\left(-2\,e^{3\,x^{-1}}x+12\,e^{2\,x^{-1}}x+e^{2\left(e^{x^{-1}}-2\right)^3}x-24\,e^{x^{-1}}x+15\,x-1\right)}\,dx$$

Variance

$$sigma^2 = 6\int_0^{(\ln(2))^{-1}} \left(e^{x^{-1}}-2\right)^2 e^{-\frac{1}{x}\left(-2\,e^{3\,x^{-1}}x+12\,e^{2\,x^{-1}}x+e^{2\left(e^{x^{-1}}-2\right)^3}x-24\,e^{x^{-1}}x+15\,x-1\right)}\,dx-36\left(\int_0\right.$$

Moment Function

$$m(x) = \int_0^{(\ln(2))^{-1}} 6\,\frac{x^r\left(e^{x^{-1}}-2\right)^2}{x^2} e^{\frac{1}{x}\left(2\,e^{3\,x^{-1}}x-12\,e^{2\,x^{-1}}x-e^{2\left(e^{x^{-1}}-2\right)^3}x+24\,e^{x^{-1}}x-15\,x+1\right)}\,dx$$

Moment Generating Function

$$6\int_0^{(\ln(2))^{-1}} \frac{\left(e^{x^{-1}}-2\right)^2}{x^2} e^{\frac{1}{x}\left(2\,e^{3\,x^{-1}}x-12\,e^{2\,x^{-1}}x+tx^2-e^{2}\left(e^{x^{-1}}-2\right)^3x+24\,e^{x^{-1}}x-15\,x+1\right)}\,dx_1$$

$$t \mapsto \tanh(t)$$

Probability Distribution Function

$$f(x) = -6\,\frac{e^{1-e^{2\,(\operatorname{arctanh}(x))^3}+2\,(\operatorname{arctanh}(x))^3}\left(\operatorname{arctanh}(x)\right)^2}{x^2-1}$$

Cumulative Distribution Function

$$F(x) = 1 - e^{-\frac{e^{1/4\,(\ln(x+1))^3}\left((x+1)^{(\ln(1-x))^2}\right)^{3/4}-\left((1-x)^{(\ln(x+1))^2}\right)^{3/4}\sqrt[4]{e^{(\ln(1-x))^3}}}{\left((1-x)^{(\ln(x+1))^2}\right)^{3/4}\sqrt[4]{e^{(\ln(1-x))^3}}}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = []$$

Survivor Function

$$S(x) = e^{-\frac{e^{1/4\,(\ln(x+1))^3}\left((x+1)^{(\ln(1-x))^2}\right)^{3/4}-\left((1-x)^{(\ln(x+1))^2}\right)^{3/4}\sqrt[4]{e^{(\ln(1-x))^3}}}{\left((1-x)^{(\ln(x+1))^2}\right)^{3/4}\sqrt[4]{e^{(\ln(1-x))^3}}}}$$

Hazard Function

$$h(x) = -6\,\frac{\left(\operatorname{arctanh}(x)\right)^2}{x^2-1} e^{-\frac{-2\,(\operatorname{arctanh}(x))^3\left((1-x)^{(\ln(x+1))^2}\right)^{3/4}\sqrt[4]{e^{(\ln(1-x))^3}}+e^{2\,(\operatorname{arctanh}(x))^3}\left((1-x)^{(\ln(x+1))^2}\right)^{3/4}\sqrt[4]{e^{(\ln(}}}{\left((1-x)^{(\ln(x+1))^2}\right)^{3/4}\sqrt[4]{e^{(\ln(1-x))^3}}}}$$

Mean

$$mu = -6\int_0^1 \frac{xe^{1-e^{2\,(\operatorname{arctanh}(x))^3}+2\,(\operatorname{arctanh}(x))^3}\left(\operatorname{arctanh}(x)\right)^2}{x^2-1}\,dx$$

Variance

$$sigma^2 = -6\int_0^1 \frac{x^2e^{1-e^{2\,(\operatorname{arctanh}(x))^3}+2\,(\operatorname{arctanh}(x))^3}\left(\operatorname{arctanh}(x)\right)^2}{x^2-1}\,dx - 36\left(\int_0^1 \frac{xe^{1-e^{2\,(\operatorname{arctanh}(x))^3}+2\,(\operatorname{arcta}}}{x^2-}\right.$$

Moment Function

$$m(x) = \int_0^1 -6\,\frac{x^r e^{1-e^{2\,(\mathrm{arctanh}(x))^3}+2\,(\mathrm{arctanh}(x))^3} \left(\mathrm{arctanh}\left(x\right)\right)^2}{x^2-1}\,\mathrm{d}x$$

Moment Generating Function

$$-6\int_0^1 \frac{\left(\mathrm{arctanh}\left(x\right)\right)^2 e^{tx+1-e^{2\,(\mathrm{arctanh}(x))^3}+2\,(\mathrm{arctanh}(x))^3}}{x^2-1}\,\mathrm{d}x_1$$

$$t \mapsto \sinh\left(t\right)$$

Probability Distribution Function

$$f(x) = 6\,\frac{e^{1-e^{2\,(\mathrm{arcsinh}(x))^3}+2\,(\mathrm{arcsinh}(x))^3} \left(\mathrm{arcsinh}\left(x\right)\right)^2}{\sqrt{x^2+1}}$$

Cumulative Distribution Function

$$F(x) = 1 - e^{1-e^{-2\,\left(\ln\left(-x+\sqrt{x^2+1}\right)\right)^3}}$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = e^{1-e^{-2\,\left(\ln\left(-x+\sqrt{x^2+1}\right)\right)^3}}$$

Hazard Function

$$h(x) = 6\,\frac{e^{-e^{2\,(\mathrm{arcsinh}(x))^3}+2\,(\mathrm{arcsinh}(x))^3+e^{-2\,\left(\ln\left(-x+\sqrt{x^2+1}\right)\right)^3}} \left(\mathrm{arcsinh}\left(x\right)\right)^2}{\sqrt{x^2+1}}$$

Mean

$$mu = \int_0^\infty 6\,\frac{x e^{1-e^{2\,(\mathrm{arcsinh}(x))^3}+2\,(\mathrm{arcsinh}(x))^3} \left(\mathrm{arcsinh}\left(x\right)\right)^2}{\sqrt{x^2+1}}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_0^\infty 6\,\frac{x^2 e^{1-e^{2\,(\mathrm{arcsinh}(x))^3}+2\,(\mathrm{arcsinh}(x))^3} \left(\mathrm{arcsinh}\left(x\right)\right)^2}{\sqrt{x^2+1}}\,\mathrm{d}x - \left(\int_0^\infty 6\,\frac{x e^{1-e^{2\,(\mathrm{arcsinh}(x))^3}+2\,(\mathrm{arcsinh}(x)}}{\sqrt{x^2+1}}\right.$$

Moment Function

$$m(x) = \int_0^\infty 6\,\frac{x^r \mathrm{e}^{1-\mathrm{e}^{2\,(\mathrm{arcsinh}(x))^3}+2\,(\mathrm{arcsinh}(x))^3} \left(\mathrm{arcsinh}\,(x)\right)^2}{\sqrt{x^2+1}}\,\mathrm{d}x$$

Moment Generating Function

$$\int_0^\infty 6\,\frac{\left(\mathrm{arcsinh}\,(x)\right)^2 \mathrm{e}^{tx+1-\mathrm{e}^{2\,(\mathrm{arcsinh}(x))^3}+2\,(\mathrm{arcsinh}(x))^3}}{\sqrt{x^2+1}}\,\mathrm{d}x_1$$

$$t \mapsto \mathrm{arcsinh}\,(t)$$

Probability Distribution Function

$$f(x) = 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+2\,(\sinh(x))^3} \left(\sinh\,(x)\right)^2 \cosh\,(x)$$

Cumulative Distribution Function

$$F(x) = \left(\mathrm{e}^{\mathrm{e}^{1/4\left(\mathrm{e}^{6\,x}-3\,\mathrm{e}^{4\,x}+3\,\mathrm{e}^{2\,x}-1\right)\mathrm{e}^{-3\,x}}} - \mathrm{e}\right) \mathrm{e}^{-\mathrm{e}^{1/4\left(\mathrm{e}^{6\,x}-3\,\mathrm{e}^{4\,x}+3\,\mathrm{e}^{2\,x}-1\right)\mathrm{e}^{-3\,x}}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = \left[ln \circ s \mapsto RootOf\left(\_Z^6 - 3\,\_Z^4 - 4\,\ln\left(\ln\left(-\left(-1+s\right)^{-1}\right)+1\right)\_Z^3 + 3\,\_Z^2 - 1\right)\right]$$

Survivor Function

$$S(x) = \mathrm{e}^{-\mathrm{e}^{1/4\left(\mathrm{e}^{6\,x}-3\,\mathrm{e}^{4\,x}+3\,\mathrm{e}^{2\,x}-1\right)\mathrm{e}^{-3\,x}}+1}$$

Hazard Function

$$h(x) = 6\,\mathrm{e}^{-\mathrm{e}^{2\,(\sinh(x))^3}+2\,(\sinh(x))^3+\mathrm{e}^{1/4\left(\mathrm{e}^{6\,x}-3\,\mathrm{e}^{4\,x}+3\,\mathrm{e}^{2\,x}-1\right)\mathrm{e}^{-3\,x}}} \left(\sinh\,(x)\right)^2 \cosh\,(x)$$

Mean

$$mu = \int_0^\infty 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+1/2\,\sinh(3\,x)-3/2\,\sinh(x)} \left(\sinh\,(x)\right)^2 \cosh\,(x)\,x\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_0^\infty 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+1/2\,\sinh(3\,x)-3/2\,\sinh(x)} \left(\sinh\,(x)\right)^2 \cosh\,(x)\,x^2\,\mathrm{d}x - \left(\int_0^\infty 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+1,}\right.$$

Moment Function

$$m(x) = \int_0^\infty 6\, x^r e^{1-e^{2\,(\sinh(x))^3}+2\,(\sinh(x))^3} \left(\sinh(x)\right)^2 \cosh(x)\; dx$$

Moment Generating Function

$$\int_0^\infty 6\, e^{tx+1-e^{2\,(\sinh(x))^3}+1/2\,\sinh(3\,x)-3/2\,\sinh(x)} \left(\sinh(x)\right)^2 \cosh(x)\; dx_1$$

$$t \mapsto \operatorname{csch}(t+1)$$

Probability Distribution Function

$$f(x) = 6\,\frac{e^{2\,(\operatorname{arccsch}(x))^3-6\,(\operatorname{arccsch}(x))^2-e^{2\,(-1+\operatorname{arccsch}(x))^3}+6\,\operatorname{arccsch}(x)-1} \left(-1+\operatorname{arccsch}(x)\right)^2}{\sqrt{x^2+1}\,|x|}$$

Cumulative Distribution Function

$$F(x) = 6\,\int_0^x \frac{e^{2\,(\operatorname{arccsch}(t))^3-6\,(\operatorname{arccsch}(t))^2-e^{2\,(-1+\operatorname{arccsch}(t))^3}+6\,\operatorname{arccsch}(t)-1} \left(-1+\operatorname{arccsch}(t)\right)^2}{\sqrt{t^2+1}\,|t|}\, dt$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1-6\,\int_0^x \frac{e^{2\,(\operatorname{arccsch}(t))^3-6\,(\operatorname{arccsch}(t))^2-e^{2\,(-1+\operatorname{arccsch}(t))^3}+6\,\operatorname{arccsch}(t)-1} \left(-1+\operatorname{arccsch}(t)\right)^2}{\sqrt{t^2+1}\,|t|}\, dt$$

Hazard Function

$$h(x) = -6\,\frac{e^{2\,(\operatorname{arccsch}(x))^3-6\,(\operatorname{arccsch}(x))^2-e^{2\,(-1+\operatorname{arccsch}(x))^3}+6\,\operatorname{arccsch}(x)-1} \left(-1+\operatorname{arccsch}(x)\right)^2}{\sqrt{x^2+1}\,|x|} \left(-1+6\,\int_0^x\right.$$

Mean

$$mu = 6\,\int_0^{2\,\frac{e}{e^2-1}} \frac{e^{2\,(\operatorname{arccsch}(x))^3-6\,(\operatorname{arccsch}(x))^2-e^{2\,(-1+\operatorname{arccsch}(x))^3}+6\,\operatorname{arccsch}(x)-1} \left(-1+\operatorname{arccsch}(x)\right)^2}{\sqrt{x^2+1}}\, dx$$

Variance

$$sigma^2 = 6\int_0^{2\frac{e}{e^2-1}} \frac{x e^{2(\operatorname{arccsch}(x))^3-6(\operatorname{arccsch}(x))^2-e^{2(-1+\operatorname{arccsch}(x))^3}+6\operatorname{arccsch}(x)-1}(-1+\operatorname{arccsch}(x))^2}{\sqrt{x^2+1}}\,dx-$$

Moment Function

$$m(x) = \int_0^{-2\left(-e+e^{-1}\right)^{-1}} 6\,\frac{x^r e^{2(\operatorname{arccsch}(x))^3-6(\operatorname{arccsch}(x))^2-e^{2(-1+\operatorname{arccsch}(x))^3}+6\operatorname{arccsch}(x)-1}(-1+\operatorname{arccsch}(x)}{\sqrt{x^2+1}\,|x|}$$

Moment Generating Function

$$6\int_0^{2\frac{e}{e^2-1}} \frac{(-1+\operatorname{arccsch}(x))^2 e^{tx+2(\operatorname{arccsch}(x))^3-6(\operatorname{arccsch}(x))^2-e^{2(-1+\operatorname{arccsch}(x))^3}+6\operatorname{arccsch}(x)-1}}{\sqrt{x^2+1}x}\,dx_1$$

$$t \mapsto \operatorname{arccsch}(t+1)$$

Probability Distribution Function

$$f(x) = 6\,\frac{\left((\cosh(x))^2-2\sinh(x)\right)\cosh(x)}{(\sinh(x))^4} e^{-\frac{1}{(\sinh(x))^3}\left(e^{-2\frac{(\sinh(x)-1)^3}{(\sinh(x))^3}}(\sinh(x))^3+(\sinh(x))^3-6(\sinh(x))^2+6\sin\right.}$$

Cumulative Distribution Function

$$F(x) = e^{-\left(e^{2\frac{6e^{5x}+9e^{2x}+6e^{x}+1}{e^{6x}-3e^{4x}+3e^{2x}-1}}-e^{2\frac{e^{3x}\left(e^{3x}+9e^{x}+4\right)}{e^{6x}-3e^{4x}+3e^{2x}-1}}\right)e^{-2\frac{e^{3x}\left(e^{3x}+9e^{x}+4\right)}{e^{6x}-3e^{4x}+3e^{2x}-1}}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [ln \circ s \mapsto RootOf\left(\left(RootOf\left(4096\,\_Z^6 + (12288\,\ln(1-\ln(s)) + 122880)\,\_Z^5 + \left(-3840\,(\ln\right.\right.\right.\right.$$

Survivor Function

$$S(x) = 1 - e^{-\left(e^{2\frac{6e^{5x}+9e^{2x}+6e^{x}+1}{e^{6x}-3e^{4x}+3e^{2x}-1}}-e^{2\frac{e^{3x}\left(e^{3x}+9e^{x}+4\right)}{e^{6x}-3e^{4x}+3e^{2x}-1}}\right)e^{-2\frac{e^{3x}\left(e^{3x}+9e^{x}+4\right)}{e^{6x}-3e^{4x}+3e^{2x}-1}}}$$

Hazard Function

$$h(x) = 6\,\frac{\left(-\left(\cosh\left(x\right)\right)^{2} + 2\,\sinh\left(x\right)\right)\cosh\left(x\right)}{\left(\sinh\left(x\right)\right)^{4}}\mathrm{e}^{-\frac{1}{\left(\sinh(x)\right)^{3}}}\left(\mathrm{e}^{-2\,\frac{\left(\sinh(x)-1\right)^{3}}{\left(\sinh(x)\right)^{3}}}\left(\sinh(x)\right)^{3}+\left(\sinh(x)\right)^{3}-6\left(\sinh(x)\right)^{2}+6\right.$$

$$t \mapsto \left(\tanh\left(t+1\right)\right)^{-1}$$

Probability Distribution Function

$$f(x) = 6\,\frac{\mathrm{e}^{2\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^{3}-6\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^{2}-\mathrm{e}^{2\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)^{3}}+6\operatorname{arctanh}\left(x^{-1}\right)-1}\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)^{2}}{x^{2}-1}$$

Cumulative Distribution Function

$$F(x) = \mathrm{e}^{-\frac{\mathrm{e}^{-1/4\left(\ln(x-1)\right)^{3}-3/2\left(\ln(x+1)\right)^{2}-3/2\left(\ln(x-1)\right)^{2}+1/4\left(\ln(x+1)\right)^{3}-2}\left(x-1\right)^{3/4\left(-\ln(x+1)+\ln(x-1)+4\right)\ln(x+1)}x^{3}+3\,\mathrm{e}^{-1/4\left(\ln(x-1\right.}}{}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = []$$

Survivor Function

$$S(x) = 1-\mathrm{e}^{-\frac{\mathrm{e}^{-1/4\left(\ln(x-1)\right)^{3}-3/2\left(\ln(x+1)\right)^{2}-3/2\left(\ln(x-1)\right)^{2}+1/4\left(\ln(x+1)\right)^{3}-2}\left(x+1\right)^{3/4\left(-\ln(x+1)+\ln(x-1)+4\right)\ln(x-1)}x^{3}+3\,\mathrm{e}^{-1/4\left(\ln(\right.}}{}}$$

Hazard Function

$$h(x) = -6\,\frac{\mathrm{e}^{2\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^{3}-6\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^{2}-\mathrm{e}^{2\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)^{3}}+6\operatorname{arctanh}\left(x^{-1}\right)-1}\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)}{x^{2}-1}$$

Mean

$$mu = 6\int_{1}^{\frac{\mathrm{e}^{2}+1}{\mathrm{e}^{2}-1}}\frac{x\mathrm{e}^{2\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^{3}-6\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^{2}-\mathrm{e}^{2\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)^{3}}+6\operatorname{arctanh}\left(x^{-1}\right)-1}\left(-1+\operatorname{arctanh}\left(\right.\right.}{x^{2}-1}$$

Variance

$$sigma^{2} = 6\int_{1}^{\frac{\mathrm{e}^{2}+1}{\mathrm{e}^{2}-1}}\frac{x^{2}\mathrm{e}^{2\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^{3}-6\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^{2}-\mathrm{e}^{2\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)^{3}}+6\operatorname{arctanh}\left(x^{-1}\right)-1}\left(-1+\operatorname{arct}\right.}{x^{2}-1}$$

Moment Function

$$m(x) = \int_1^{\frac{-\mathrm{e}-\mathrm{e}^{-1}}{-\mathrm{e}+\mathrm{e}^{-1}}} 6\,\frac{x^r \mathrm{e}^{2\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^3-6\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^2-\mathrm{e}^{2\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)^3}+6\operatorname{arctanh}\left(x^{-1}\right)-1}\left(-1+\mathrm{arcta}\right.}{x^2-1}$$

Moment Generating Function

$$6\int_1^{\frac{\mathrm{e}^2+1}{\mathrm{e}^2-1}} \frac{\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)^2 \mathrm{e}^{tx+2\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^3-6\left(\operatorname{arctanh}\left(x^{-1}\right)\right)^2-\mathrm{e}^{2\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)^3}+6\operatorname{arctanh}\left(x^{-1}\right)-}}{x^2-1}$$

$$t \mapsto \left(\sinh\left(t+1\right)\right)^{-1}$$

Probability Distribution Function

$$f(x) = 6\,\frac{\mathrm{e}^{2\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^3-6\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^2-\mathrm{e}^{2\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^3}+6\operatorname{arcsinh}\left(x^{-1}\right)-1}\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^2}{\sqrt{x^2+1}\,|x|}$$

Cumulative Distribution Function

$$F(x) = 6\int_0^x \frac{\mathrm{e}^{2\left(\operatorname{arcsinh}\left(t^{-1}\right)\right)^3-6\left(\operatorname{arcsinh}\left(t^{-1}\right)\right)^2-\mathrm{e}^{2\left(-1+\operatorname{arcsinh}\left(t^{-1}\right)\right)^3}+6\operatorname{arcsinh}\left(t^{-1}\right)-1}\left(-1+\operatorname{arcsinh}\left(t^{-1}\right)\right)^2}{\sqrt{t^2+1}\,|t|}$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1-6\int_0^x \frac{\mathrm{e}^{2\left(\operatorname{arcsinh}\left(t^{-1}\right)\right)^3-6\left(\operatorname{arcsinh}\left(t^{-1}\right)\right)^2-\mathrm{e}^{2\left(-1+\operatorname{arcsinh}\left(t^{-1}\right)\right)^3}+6\operatorname{arcsinh}\left(t^{-1}\right)-1}\left(-1+\operatorname{arcsinh}\left(t^{-1}\right.\right.}{\sqrt{t^2+1}\,|t|}$$

Hazard Function

$$h(x) = -6\,\frac{\mathrm{e}^{2\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^3-6\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^2-\mathrm{e}^{2\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^3}+6\operatorname{arcsinh}\left(x^{-1}\right)-1}\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^2}{\sqrt{x^2+1}\,|x|}$$

Mean

$$mu = 6\int_0^{2\frac{e}{e^2-1}} \frac{e^{2\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^3-6\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^2-e^{2\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^3}+6\operatorname{arcsinh}\left(x^{-1}\right)-1}\left(-1+\operatorname{arcsinh}\left(x^{-\cdots}\right.\right.}{\sqrt{x^2+1}}$$

Variance

$$sigma^2 = 6\int_0^{2\frac{e}{e^2-1}} \frac{xe^{2\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^3-6\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^2-e^{2\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^3}+6\operatorname{arcsinh}\left(x^{-1}\right)-1}\left(-1+\operatorname{arcsi}\cdots\right.}{\sqrt{x^2+1}}$$

Moment Function

$$m(x) = \int_0^{2\left(e-e^{-1}\right)^{-1}} 6\,\frac{x^r e^{2\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^3-6\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^2-e^{2\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^3}+6\operatorname{arcsinh}\left(x^{-1}\right)-1}\left(-1+\operatorname{ar}\cdots\right.}{\sqrt{x^2+1}\,|x|}$$

Moment Generating Function

$$\frac{6\int_0^{2\frac{e}{e^2-1}} \frac{\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^2 e^{tx+2\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^3-6\left(\operatorname{arcsinh}\left(x^{-1}\right)\right)^2-e^{2\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)^3}+6\operatorname{arcsinh}\left(x^{-1}\right)-\cdots}}{\sqrt{x^2+1}x}}{}$$

$$t \mapsto \left(\operatorname{arcsinh}\left(t+1\right)\right)^{-1}$$

Probability Distribution Function

$$f(x) = -6\,\frac{e^{2\left(\sinh\left(x^{-1}\right)\right)^3-6\left(\sinh\left(x^{-1}\right)\right)^2+6\sinh\left(x^{-1}\right)-e^{2\left(-1+\sinh\left(x^{-1}\right)\right)^3}-1}\left(-\left(\cosh\left(x^{-1}\right)\right)^2+2\sinh\left(x^{-1}\cdots\right.\right.}{x^2}$$

Cumulative Distribution Function

$$F(x) = e^{\left(e^{1/4\left(6e^{5x^{-1}}+9e^{2x^{-1}}+6e^{x^{-1}}+1\right)e^{-3x^{-1}}}-e^{1/4e^{3x^{-1}}+9/4e^{x^{-1}}+1}\right)e^{-1/4\left(6e^{5x^{-1}}+9e^{2x^{-1}}+6e^{x^{-1}}+1\right)e^{-3x^{-1}}}}$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1 - \mathrm{e}^{\left(\mathrm{e}^{1/4\left(6\,\mathrm{e}^{5\,x^{-1}}+9\,\mathrm{e}^{2\,x^{-1}}+6\,\mathrm{e}^{x^{-1}}+1\right)\mathrm{e}^{-3\,x^{-1}}}-\mathrm{e}^{1/4\,\mathrm{e}^{3\,x^{-1}}+9/4\,\mathrm{e}^{x^{-1}}+1}\right)\mathrm{e}^{-1/4\left(6\,\mathrm{e}^{5\,x^{-1}}+9\,\mathrm{e}^{2\,x^{-1}}+6\,\mathrm{e}^{x^{-1}}+1\right)\mathrm{e}^{-3\,x^{-1}}}}$$

Hazard Function

$$h(x) = -6\,\frac{\mathrm{e}^{2\left(\sinh\left(x^{-1}\right)\right)^{3}-6\left(\sinh\left(x^{-1}\right)\right)^{2}+6\,\sinh\left(x^{-1}\right)-\mathrm{e}^{2\left(-1+\sinh\left(x^{-1}\right)\right)^{3}}-1}\left(\left(\cosh\left(x^{-1}\right)\right)^{2}-2\,\sinh\left(x^{-1}\right)\right)}{x^{2}}$$

$$t \mapsto \left(\operatorname{csch}(t)\right)^{-1}+1$$

Probability Distribution Function

$$f(x) = 6\,\frac{\mathrm{e}^{1-\mathrm{e}^{2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^{3}}+2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^{3}}\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^{2}}{\sqrt{x^{2}-2\,x+2}}$$

Cumulative Distribution Function

$$F(x) = 6\int_{1}^{x}\frac{\mathrm{e}^{1-\mathrm{e}^{2\left(\operatorname{arccsch}\left((t-1)^{-1}\right)\right)^{3}}+2\left(\operatorname{arccsch}\left((t-1)^{-1}\right)\right)^{3}}\left(\operatorname{arccsch}\left((t-1)^{-1}\right)\right)^{2}}{\sqrt{t^{2}-2\,t+2}}\,\mathrm{d}t$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1-6\int_{1}^{x}\frac{\mathrm{e}^{1-\mathrm{e}^{2\left(\operatorname{arccsch}\left((t-1)^{-1}\right)\right)^{3}}+2\left(\operatorname{arccsch}\left((t-1)^{-1}\right)\right)^{3}}\left(\operatorname{arccsch}\left((t-1)^{-1}\right)\right)^{2}}{\sqrt{t^{2}-2\,t+2}}\,\mathrm{d}t$$

Hazard Function

$$h(x) = -6\,\frac{\mathrm{e}^{1-\mathrm{e}^{2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^{3}}+2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^{3}}\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^{2}}{\sqrt{x^{2}-2\,x+2}}\left(-1+6\int_{1}^{x}\frac{\mathrm{e}^{1-\mathrm{e}^{2\left(\operatorname{arccsc}\right.}}}{}\right.$$

Mean

$$mu = \int_1^{\infty} 6\,\frac{x\mathrm{e}^{1-\mathrm{e}^{2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^3}+2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^3}\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^2}{\sqrt{x^2-2\,x+2}}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_1^{\infty} 6\,\frac{x^2\mathrm{e}^{1-\mathrm{e}^{2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^3}+2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^3}\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^2}{\sqrt{x^2-2\,x+2}}\,\mathrm{d}x - \left(\int_1^{\infty} 6\,\frac{x\mathrm{e}^{1}}{}\right.$$

Moment Function

$$m(x) = \int_1^{\infty} 6\,\frac{x^r\mathrm{e}^{1-\mathrm{e}^{2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^3}+2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^3}\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^2}{\sqrt{x^2-2\,x+2}}\,\mathrm{d}x$$

Moment Generating Function

$$\frac{\int_1^{\infty} 6\,\frac{\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^2\mathrm{e}^{tx+1-\mathrm{e}^{2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^3}+2\left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^3}}{\sqrt{x^2-2\,x+2}}\,\mathrm{d}x_1}{}$$

$$t \mapsto \tanh\left(t^{-1}\right)$$

Probability Distribution Function

$$f(x) = -6\,\frac{1}{\left(\operatorname{arctanh}(x)\right)^4\left(x^2-1\right)}\mathrm{e}^{-\frac{1}{(\operatorname{arctanh}(x))^3}\left(\mathrm{e}^{2\,(\operatorname{arctanh}(x))^{-3}}(\operatorname{arctanh}(x))^3-(\operatorname{arctanh}(x))^3-2\right)}$$

Cumulative Distribution Function

$$F(x) = -6\,\int_0^x \frac{1}{\left(\operatorname{arctanh}(t)\right)^4\left(t^2-1\right)}\mathrm{e}^{-\frac{1}{(\operatorname{arctanh}(t))^3}\left(\mathrm{e}^{2\,(\operatorname{arctanh}(t))^{-3}}(\operatorname{arctanh}(t))^3-(\operatorname{arctanh}(t))^3-2\right)}\,\mathrm{d}t$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1+6\,\int_0^x \frac{1}{\left(\operatorname{arctanh}(t)\right)^4\left(t^2-1\right)}\mathrm{e}^{-\frac{1}{(\operatorname{arctanh}(t))^3}\left(\mathrm{e}^{2\,(\operatorname{arctanh}(t))^{-3}}(\operatorname{arctanh}(t))^3-(\operatorname{arctanh}(t))^3-2\right)}\,\mathrm{d}t$$

Hazard Function

$$h(x) = -6\,\frac{1}{(\operatorname{arctanh}(x))^4\,(x^2-1)}\mathrm{e}^{-\frac{1}{(\operatorname{arctanh}(x))^3}\left(\mathrm{e}^{2\,(\operatorname{arctanh}(x))^{-3}}(\operatorname{arctanh}(x))^3-(\operatorname{arctanh}(x))^3-2\right)}\left(1+6\int_0^x \frac{}{(\text{a}}\right.$$

Mean

$$mu = -6\int_0^1 \frac{x}{(\operatorname{arctanh}(x))^4\,(x^2-1)}\mathrm{e}^{-\frac{1}{(\operatorname{arctanh}(x))^3}\left(\mathrm{e}^{2\,(\operatorname{arctanh}(x))^{-3}}(\operatorname{arctanh}(x))^3-(\operatorname{arctanh}(x))^3-2\right)}\,\mathrm{d}x$$

Variance

$$sigma^2 = -6\int_0^1 \frac{x^2}{(\operatorname{arctanh}(x))^4\,(x^2-1)}\mathrm{e}^{-\frac{1}{(\operatorname{arctanh}(x))^3}\left(\mathrm{e}^{2\,(\operatorname{arctanh}(x))^{-3}}(\operatorname{arctanh}(x))^3-(\operatorname{arctanh}(x))^3-2\right)}\,\mathrm{d}x-36$$

Moment Function

$$m(x) = \int_0^1 -6\,\frac{x^r}{(\operatorname{arctanh}(x))^4\,(x^2-1)}\mathrm{e}^{-\frac{1}{(\operatorname{arctanh}(x))^3}\left(\mathrm{e}^{2\,(\operatorname{arctanh}(x))^{-3}}(\operatorname{arctanh}(x))^3-(\operatorname{arctanh}(x))^3-2\right)}\,\mathrm{d}x$$

Moment Generating Function

$$-6\int_0^1 \frac{1}{(\operatorname{arctanh}(x))^4\,(x^2-1)}\mathrm{e}^{-\frac{1}{(\operatorname{arctanh}(x))^3}\left(-tx(\operatorname{arctanh}(x))^3+\mathrm{e}^{2\,(\operatorname{arctanh}(x))^{-3}}(\operatorname{arctanh}(x))^3-(\operatorname{arctanh}(x))^3-2\right)}\,\mathrm{d}x$$

$$t \mapsto \operatorname{csch}\left(t^{-1}\right)$$

Probability Distribution Function

$$f(x) = 6\,\frac{1}{\sqrt{x^2+1}\,(\operatorname{arccsch}(x))^4\,|x|}\mathrm{e}^{-\frac{1}{(\operatorname{arccsch}(x))^3}\left(\mathrm{e}^{2\,(\operatorname{arccsch}(x))^{-3}}(\operatorname{arccsch}(x))^3-(\operatorname{arccsch}(x))^3-2\right)}$$

Cumulative Distribution Function

$$F(x) = 6\int_0^x \frac{1}{\sqrt{t^2+1}\,(\operatorname{arccsch}(t))^4\,|t|}\mathrm{e}^{-\frac{1}{(\operatorname{arccsch}(t))^3}\left(\mathrm{e}^{2\,(\operatorname{arccsch}(t))^{-3}}(\operatorname{arccsch}(t))^3-(\operatorname{arccsch}(t))^3-2\right)}\,\mathrm{d}t$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1-6\int_0^x \frac{1}{\sqrt{t^2+1}\,(\operatorname{arccsch}(t))^4\,|t|} \mathrm{e}^{-\frac{1}{(\operatorname{arccsch}(t))^3}\left(\mathrm{e}^{2\,(\operatorname{arccsch}(t))^{-3}}(\operatorname{arccsch}(t))^3-(\operatorname{arccsch}(t))^3-2\right)}\,\mathrm{d}t$$

Hazard Function

$$h(x) = -6\,\frac{1}{\sqrt{x^2+1}\,(\operatorname{arccsch}(x))^4\,|x|} \mathrm{e}^{-\frac{1}{(\operatorname{arccsch}(x))^3}\left(\mathrm{e}^{2\,(\operatorname{arccsch}(x))^{-3}}(\operatorname{arccsch}(x))^3-(\operatorname{arccsch}(x))^3-2\right)}\left(-1+6\int_0\right.$$

$$t \mapsto \operatorname{arccsch}\left(t^{-1}\right)$$

Probability Distribution Function

$$f(x) = 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+2\,(\sinh(x))^3}\cosh(x)\,(\sinh(x))^2$$

Cumulative Distribution Function

$$F(x) = \left(\mathrm{e}^{\mathrm{e}^{1/4\left(\mathrm{e}^{6x}-3\,\mathrm{e}^{4x}+3\,\mathrm{e}^{2x}-1\right)\mathrm{e}^{-3x}}}-\mathrm{e}\right)\mathrm{e}^{-\mathrm{e}^{1/4\left(\mathrm{e}^{6x}-3\,\mathrm{e}^{4x}+3\,\mathrm{e}^{2x}-1\right)\mathrm{e}^{-3x}}}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [ln \circ s \mapsto RootOf\left(\_Z^6-3\,\_Z^4-4\,\ln\left(\ln\left(-(-1+s)^{-1}\right)+1\right)\_Z^3+3\,\_Z^2-1\right)]$$

Survivor Function

$$S(x) = \mathrm{e}^{-\mathrm{e}^{1/4\left(\mathrm{e}^{6x}-3\,\mathrm{e}^{4x}+3\,\mathrm{e}^{2x}-1\right)\mathrm{e}^{-3x}}+1}$$

Hazard Function

$$h(x) = 6\,\mathrm{e}^{-\mathrm{e}^{2\,(\sinh(x))^3}+2\,(\sinh(x))^3+\mathrm{e}^{1/4\left(\mathrm{e}^{6x}-3\,\mathrm{e}^{4x}+3\,\mathrm{e}^{2x}-1\right)\mathrm{e}^{-3x}}}(\sinh(x))^2\cosh(x)$$

Mean

$$mu = \int_0^\infty 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+1/2\,\sinh(3x)-3/2\,\sinh(x)}(\sinh(x))^2\cosh(x)\,x\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_0^\infty 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+1/2\,\sinh(3x)-3/2\,\sinh(x)}(\sinh(x))^2\cosh(x)\,x^2\,\mathrm{d}x-\left(\int_0^\infty 6\,\mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+1\right.$$

Moment Function

$$m(x) = \int_0^{\infty} 6\,x^r \mathrm{e}^{1-\mathrm{e}^{2\,(\sinh(x))^3}+2\,(\sinh(x))^3} \cosh(x) (\sinh(x))^2 \, \mathrm{d}x$$

Moment Generating Function

$$\int_0^{\infty} 6\,\mathrm{e}^{tx+1-\mathrm{e}^{2\,(\sinh(x))^3}+1/2\,\sinh(3\,x)-3/2\,\sinh(x)} (\sinh(x))^2 \cosh(x) \, \mathrm{d}x_1$$