"GammaRV(2.2)"

$$[x \mapsto 4\,x\mathrm{e}^{-2\,x}]$$

$$t \mapsto t^2$$

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto 1/4\,\left(\mathrm{W}\left((-1+s)\,\mathrm{e}^{-1}\right) + 1\right)^2]$$

Survivor Function

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

Hazard Function

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

Mean

$$mu = 3/2$$

Variance

$$sigma^2 = \frac{21}{4}$$

Moment Function

$$m(x) = 2\,\frac{\Gamma\,(r)\,\Gamma\,(r+1/2)\,r^2}{\sqrt{\pi}} + \frac{\Gamma\,(r)\,\Gamma\,(r+1/2)\,r}{\sqrt{\pi}}$$

Moment Generating Function

$$\lim_{x\to\infty} -2\,\frac{1}{(-t)^{3/2}}\left(\sqrt{-t}\mathrm{e}^{tx-2\,\sqrt{x}} - \sqrt{\pi}\mathrm{erf}\left(\frac{\sqrt{x}t-1}{\sqrt{-t}}\right)\mathrm{e}^{-t^{-1}} - \sqrt{\pi}\mathrm{e}^{-t^{-1}}\mathrm{erf}\left(\frac{1}{\sqrt{-t}}\right) - \sqrt{-t}\right)_1$$

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

Probability Distribution Function

$$f(x) = 8\,x^3 \mathrm{e}^{-2\,x^2}$$

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

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

Hazard Function

$$h(x) = 8\,\frac{x^3}{2\,x^2 + 1}$$

Mean

$$mu = 3/8\,\sqrt{2}\sqrt{\pi}$$

Variance

$$sigma^2 = 1 - \frac{9\,\pi}{32}$$

Moment Function

$$m(x) = 2^{-r/2}\Gamma\left(2 + r/2\right)$$

Moment Generating Function

$$1/8\,t^2 + 1/32\,t^3\sqrt{\pi}\mathrm{e}^{1/8\,t^2}\sqrt{2}\mathrm{erf}\left(1/4\,t\sqrt{2}\right) + 3/8\,t\sqrt{\pi}\mathrm{e}^{1/8\,t^2}\sqrt{2}\mathrm{erf}\left(1/4\,t\sqrt{2}\right) + 1 + 1/32\,t^3\sqrt{\pi}\mathrm{e}^{1/8\,t^2}\sqrt{2}$$

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto -2\ \left(\mathrm{W}\left(-s\mathrm{e}^{-1}\right) + 1\right)^{-1}]$$

Survivor Function

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

Hazard Function

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

Mean

$$mu = 2$$

Variance

$$sigma^2 = \infty$$

Moment Function

$$m(x) = 2^r\Gamma\left(2-r\right)$$

Moment Generating Function

$$-4\,tK_0\left(2\,\sqrt{-t}\sqrt{2}\right) + 2\,\sqrt{-t}\sqrt{2}K_1\left(2\,\sqrt{-t}\sqrt{2}\right)_1$$

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

Probability Distribution Function

$$f(x) = 4\ \tan\left(x\right)\mathrm{e}^{-2\ \tan(x)}\left(1 + \left(\tan\left(x\right)\right)^2\right)$$

Cumulative Distribution Function

$$F(x) = \begin{cases} 1 - 2\ \tan\left(x\right)\mathrm{e}^{-2\ \tan(x)} - \mathrm{e}^{-2\ \tan(x)} & x \le \pi/2 \\ -\infty & \pi/2 < x \end{cases}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto -\arctan\left(1/2\,\mathrm{W}\left(\left(-1+s\right)\mathrm{e}^{-1}\right) + 1/2\right)]$$

Survivor Function

$$S(x) = \begin{cases} e^{-2\tan(x)}\,(2\tan(x)+1) & x \le \pi/2 \\ \infty & \pi/2 < x \end{cases}$$

Hazard Function

$$h(x) = \begin{cases} 4\,\frac{\sin(x)}{(\cos(x))^2(2\sin(x)+\cos(x))} & x \le \pi/2 \\ 0 & \pi/2 < x \end{cases}$$

Mean

$$mu = 4\int_0^{\pi/2} x\tan(x)\,e^{-2\tan(x)}\left(1+(\tan(x))^2\right)\,dx$$

Variance

$$sigma^2 = 4\int_0^{\pi/2} x^2\tan(x)\,e^{-2\tan(x)}\left(1+(\tan(x))^2\right)\,dx - 16\left(\int_0^{\pi/2} x\tan(x)\,e^{-2\tan(x)}\left(1+(\tan(\right.\right.$$

Moment Function

$$m(x) = \int_0^{\pi/2} 4\,x^r\tan(x)\,e^{-2\tan(x)}\left(1+(\tan(x))^2\right)\,dx$$

Moment Generating Function

$$4\int_0^{\pi/2}\tan(x)\left(1+(\tan(x))^2\right)e^{tx-2\tan(x)}\,dx_1$$

$$t \mapsto e^t$$

Probability Distribution Function

$$f(x) = 4\,\frac{\ln(x)}{x^3}$$

Cumulative Distribution Function

$$F(x) = -\frac{-x^2+2\ln(x)+1}{x^2}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \frac{1}{\sqrt{\frac{s-1}{\mathrm{W}((s-1)\mathrm{e}^{-1})}}}]$$

Survivor Function

$$S(x) = \frac{2\,\ln(x) + 1}{x^2}$$

Hazard Function

$$h(x) = 4\,\frac{\ln(x)}{x\,(2\,\ln(x) + 1)}$$

Mean

$$mu = 4$$

Variance

$$sigma^2 = \infty$$

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

Probability Distribution Function

$$f(x) = 4\,\mathrm{e}^{2\,x - 2\,\mathrm{e}^x}$$

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto RootOf\left(\_Z + \ln(2) - \ln\left(1 - \mathrm{e}^{-2\,\mathrm{e}^{\_Z}} - s\right) - 2\,\mathrm{e}^{\_Z}\right)]$$

Survivor Function

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

Hazard Function

$$h(x) = 4\,\frac{\mathrm{e}^{2\,x - 2\,\mathrm{e}^x}}{2\,\mathrm{e}^{x - 2\,\mathrm{e}^x} + \mathrm{e}^{-2\,\mathrm{e}^x}}$$

Mean

$$mu = \int_{-\infty}^{\infty} 4\,x\mathrm{e}^{2\,x - 2\,\mathrm{e}^x}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_{-\infty}^{\infty} 4\,x^2 \mathrm{e}^{2\,x - 2\,\mathrm{e}^x}\,\mathrm{d}x - \left(\int_{-\infty}^{\infty} 4\,x \mathrm{e}^{2\,x - 2\,\mathrm{e}^x}\,\mathrm{d}x\right)^2$$

Moment Function

$$m(x) = \int_{-\infty}^{\infty} 4\,x^r \mathrm{e}^{2\,x - 2\,\mathrm{e}^x}\,\mathrm{d}x$$

Moment Generating Function

$$\int_{-\infty}^{\infty} 4\,\mathrm{e}^{tx + 2\,x - 2\,\mathrm{e}^x}\,\mathrm{d}x_1$$

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

Probability Distribution Function

$$f(x) = -4\,\ln(x)\,x$$

Cumulative Distribution Function

$$F(x) = -x^2\,(2\,\ln(x) - 1)$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \sqrt{-\frac{s}{\mathrm{W}\left(-s\mathrm{e}^{-1}\right)}}]$$

Survivor Function

$$S(x) = 2\,\ln(x)\,x^2 - x^2 + 1$$

Hazard Function

$$h(x) = -4\,\frac{\ln(x)\,x}{2\,\ln(x)\,x^2 - x^2 + 1}$$

Mean

$$mu = 4/9$$

Variance

$$sigma^2 = \frac{17}{324}$$

Moment Function

$$m(x) = 4\left(r^2 + 4\,r + 4\right)^{-1}$$

Moment Generating Function

$$4\,\frac{-1 + \gamma + \ln(-t) + e^t + Ei(1, -t)}{t^2}$$

[1]

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

Probability Distribution Function

$$f(x) = 4\,e^{-2\,x - 2\,e^{-x}}$$

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto RootOf\left(\ln\left(\frac{s}{2 + e^{-Z}}\right)e^{-Z} + \_Z\,e^{-Z} + 2\right)]$$

Survivor Function

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

Hazard Function

$$h(x) = -4\,\frac{e^{-2\,x - 2\,e^{-x}}}{e^{-2\,e^{-x}} + 2\,e^{-2\,e^{-x} - x} - 1}$$

Mean

$$mu = \int_{-\infty}^{\infty} 4\,xe^{-2\,x - 2\,e^{-x}}\,dx$$

Variance

$$sigma^2 = \int_{-\infty}^{\infty} 4\,x^2 e^{-2\,x - 2\,e^{-x}}\,dx - \left(\int_{-\infty}^{\infty} 4\,xe^{-2\,x - 2\,e^{-x}}\,dx\right)^2$$

Moment Function

$$m(x) = \int_{-\infty}^{\infty} 4\,x^r e^{-2\,x - 2\,e^{-x}}\,dx$$

Moment Generating Function

$$\int_{-\infty}^{\infty} 4\,\mathrm{e}^{tx-2\,x-2\,\mathrm{e}^{-x}}\,\mathrm{d}x_1$$

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \mathit{RootOf}\left(\_Z+\ln(2)-\ln\left(1+\mathrm{e}^{2-2\,\mathrm{e}^{\_Z}}-s\right)+2-2\,\mathrm{e}^{\_Z}\right)]$$

Survivor Function

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

Hazard Function

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

Mean

$$mu = \int_{0}^{\infty} 4\,x\left(\mathrm{e}^{x}-1\right)\mathrm{e}^{-2\,\mathrm{e}^{x}+2+x}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_{0}^{\infty} 4\,x^2\left(\mathrm{e}^{x}-1\right)\mathrm{e}^{-2\,\mathrm{e}^{x}+2+x}\,\mathrm{d}x-\left(\int_{0}^{\infty} 4\,x\left(\mathrm{e}^{x}-1\right)\mathrm{e}^{-2\,\mathrm{e}^{x}+2+x}\,\mathrm{d}x\right)^2$$

Moment Function

$$m(x) = \int_{0}^{\infty} 4\,x^r\left(\mathrm{e}^{x}-1\right)\mathrm{e}^{-2\,\mathrm{e}^{x}+2+x}\,\mathrm{d}x$$

Moment Generating Function

$$\int_{0}^{\infty} 4\,\left(\mathrm{e}^{x}-1\right)\mathrm{e}^{tx-2\,\mathrm{e}^{x}+2+x}\,\mathrm{d}x_1$$

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

Probability Distribution Function

$$f(x) = 4\,\frac{e^{x^{-1}} - 2}{x^2} e^{-\frac{2\,e^{x^{-1}}x - 4\,x - 1}{x}}$$

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \left(-\ln(2) + \ln\left(-\mathrm{W}\left(-s e^{-1}\right) + 3\right)\right)^{-1}]$$

Survivor Function

$$S(x) = -2\,e^{4 - 2\,e^{x^{-1}} + x^{-1}} + 3\,e^{4 - 2\,e^{x^{-1}}} + 1$$

Hazard Function

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

Mean

$$mu = 4\int_0^{(\ln(2))^{-1}} \frac{e^{x^{-1}} - 2}{x} e^{-\frac{2\,e^{x^{-1}}x - 4\,x - 1}{x}}\,dx$$

Variance

$$sigma^2 = 4\int_0^{(\ln(2))^{-1}} \left(e^{x^{-1}} - 2\right) e^{-\frac{2\,e^{x^{-1}}x - 4\,x - 1}{x}}\,dx - 16\left(\int_0^{(\ln(2))^{-1}} \frac{e^{x^{-1}} - 2}{x} e^{-\frac{2\,e^{x^{-1}}x - 4\,x - 1}{x}}\,dx\right)^2$$

Moment Function

$$m(x) = \int_0^{(\ln(2))^{-1}} 4\,\frac{x^r\left(e^{x^{-1}} - 2\right)}{x^2} e^{-\frac{2\,e^{x^{-1}}x - 4\,x - 1}{x}}\,dx$$

Moment Generating Function

$$4\int_0^{(\ln(2))^{-1}} \frac{e^{x^{-1}} - 2}{x^2} e^{-\frac{-tx^2 + 2\,e^{x^{-1}}x - 4\,x - 1}{x}}\,dx_1$$

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

Probability Distribution Function

$$f(x) = 4\,\frac{\operatorname{arctanh}(x)}{(x+1)^2}$$

Cumulative Distribution Function

$$F(x) = -\frac{\ln(1-x)\,x - \ln(x+1)\,x + 4\operatorname{arctanh}(x) + \ln(1-x) - \ln(x+1) - 2\,x}{x+1}$$

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto -e^{RootOf\left(-\ln\left(-e^{-Z}+2\right)e^{-Z}+\_Z\,e^{-Z}+se^{-Z}+2\,\ln\left(-e^{-Z}+2\right)+4\operatorname{arctanh}\left(e^{-Z}-1\right)-2\,e^{-Z}-2\,\_Z-2\,s+2\right)}+1]$$

Survivor Function

$$S(x) = \frac{\ln(1-x)\,x - \ln(x+1)\,x + \ln(1-x) - \ln(x+1) + 4\operatorname{arctanh}(x) - x + 1}{x+1}$$

Hazard Function

$$h(x) = 4\,\frac{\operatorname{arctanh}(x)}{(x+1)\left(\ln(1-x)\,x - \ln(x+1)\,x + \ln(1-x) - \ln(x+1) + 4\operatorname{arctanh}(x) - x + 1\right)}$$

Mean

$$mu = 1/6\,\pi^2 - 1$$

Variance

$$sigma^2 = 4\,\ln(2) - 1/36\,\pi^4$$

Moment Function

$$m(x) = \int_0^1 4\,\frac{x^r \operatorname{arctanh}(x)}{(x+1)^2}\,dx$$

Moment Generating Function

$$4\int_0^1 \frac{e^{tx}\operatorname{arctanh}(x)}{(x+1)^2}\,dx_1$$

$$t \mapsto \sinh(t)$$

Probability Distribution Function

$$f(x) = 4\,\frac{\operatorname{arcsinh}(x)}{\left(x+\sqrt{x^2+1}\right)^2\sqrt{x^2+1}}$$

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto 1/2\,\frac{-s+1+\mathrm{W}\left((s-1)\,e^{-1}\right)}{\mathrm{W}\left((s-1)\,e^{-1}\right)}\frac{1}{\sqrt{\frac{s-1}{\mathrm{W}((s-1)e^{-1})}}}]$$

Survivor Function

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

Hazard Function

$$h(x) = 4\,\frac{\operatorname{arcsinh}(x)}{\left(x+\sqrt{x^2+1}\right)^2\sqrt{x^2+1}\left(1-4\,x^2\ln\left(-x+\sqrt{x^2+1}\right)+2\,x^2+4\,x\sqrt{x^2+1}\ln\left(-x+\sqrt{x^2\right.\right.}}$$

Mean

$$mu = \frac{16}{9}$$

Variance

$$sigma^2 = \infty$$

Moment Function

$$m(x) = \int_0^\infty 4\,\frac{x^r\operatorname{arcsinh}(x)}{\left(x+\sqrt{x^2+1}\right)^2\sqrt{x^2+1}}\,dx$$

Moment Generating Function

$$\int_0^\infty 4\,\frac{e^{tx}\operatorname{arcsinh}(x)}{\left(x+\sqrt{x^2+1}\right)^2\sqrt{x^2+1}}\,dx_1$$

$$t \mapsto \operatorname{arcsinh}(t)$$

Probability Distribution Function

$$f(x) = 4\,\sinh(x)\,\mathrm{e}^{-2\,\sinh(x)}\cosh(x)$$

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \mathit{RootOf}\left(\mathrm{e}^{\left(2\,\_Z\,\mathrm{e}^{\_Z}+1\right)\mathrm{e}^{-\_Z}} + s\mathrm{e}^{\_Z+\mathrm{e}^{\_Z}} + \mathrm{e}^{\left(\_Z\,\mathrm{e}^{\_Z}+1\right)\mathrm{e}^{-\_Z}} - \mathrm{e}^{\_Z+\mathrm{e}^{\_Z}} - \mathrm{e}^{\mathrm{e}^{-\_Z}}\right)]$$

Survivor Function

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

Hazard Function

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

Mean

$$mu = \int_0^{\infty} 2\,x\mathrm{e}^{-2\,\sinh(x)}\sinh(2\,x)\,\mathrm{d}x$$

Variance

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

Moment Function

$$m(x) = \int_0^{\infty} 4\,x^r\sinh(x)\,\mathrm{e}^{-2\,\sinh(x)}\cosh(x)\,\mathrm{d}x$$

Moment Generating Function

$$\int_0^{\infty} 2\,\mathrm{e}^{tx-2\,\sinh(x)}\sinh(2\,x)\,\mathrm{d}x_1$$

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

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

Hazard Function

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

Mean

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

Variance

$$sigma^2 = 4\,\int_0^{2\,\frac{\mathrm{e}}{\mathrm{e}^2-1}} \frac{x\left(-1+\operatorname{arccsch}\left(x\right)\right)\mathrm{e}^{2-2\operatorname{arccsch}(x)}}{\sqrt{x^2+1}}\,\mathrm{d}x-16\left(\int_0^{2\,\frac{\mathrm{e}}{\mathrm{e}^2-1}} \frac{\left(-1+\operatorname{arccsch}\left(x\right)\right)\mathrm{e}^{2-2\operatorname{arcc}}}{\sqrt{x^2+1}}\right.$$

Moment Function

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

Moment Generating Function

$$4\,\int_0^{2\,\frac{\mathrm{e}}{\mathrm{e}^2-1}} \frac{\left(-1+\operatorname{arccsch}\left(x\right)\right)\mathrm{e}^{tx+2-2\operatorname{arccsch}(x)}}{x\sqrt{x^2+1}}\,\mathrm{d}x_1$$

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

Probability Distribution Function

$$f(x) = -4\,\frac{(\sinh(x)-1)\cosh(x)}{(\sinh(x))^3}\mathrm{e}^{2\,\frac{\sinh(x)-1}{\sinh(x)}}$$

Cumulative Distribution Function

$$F(x) = \frac{-\mathrm{e}^{2\,x}+4\,\mathrm{e}^{x}+1}{\mathrm{e}^{2\,x}-1}\mathrm{e}^{-2\,\frac{-\mathrm{e}^{2\,x}+1+2\,\mathrm{e}^{x}}{\mathrm{e}^{2\,x}-1}}$$

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

$$mu = -4\int_0^{\ln\left(1+\sqrt{2}\right)}\frac{x\,(\sinh(x)-1)\cosh(x)}{(\sinh(x))^3}\mathrm{e}^{2\,\frac{\sinh(x)-1}{\sinh(x)}}\,\mathrm{d}x$$

Variance

$$sigma^2 = -4\int_0^{\ln\left(1+\sqrt{2}\right)}\frac{x^2\,(\sinh(x)-1)\cosh(x)}{(\sinh(x))^3}\mathrm{e}^{2\,\frac{\sinh(x)-1}{\sinh(x)}}\,\mathrm{d}x - 16\left(\int_0^{\ln\left(1+\sqrt{2}\right)}\frac{x\,(\sinh(x)-1)\,\mathrm{co}}{(\sinh(x))^3}\right.$$

Moment Function

$$m(x) = \int_0^{\ln\left(1+\sqrt{2}\right)} -4\,\frac{x^r\,(\sinh(x)-1)\cosh(x)}{(\sinh(x))^3}\mathrm{e}^{2\,\frac{\sinh(x)-1}{\sinh(x)}}\,\mathrm{d}x$$

Moment Generating Function

$$-4\int_0^{\ln\left(1+\sqrt{2}\right)} \frac{(\sinh(x)-1)\cosh(x)}{(\sinh(x))^3} e^{\frac{tx\sinh(x)+2\sinh(x)-2}{\sinh(x)}}\,dx_1$$

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

Probability Distribution Function

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

Cumulative Distribution Function

$$F(x) = 4\int_1^x \frac{\left(-1+\operatorname{arctanh}\left(t^{-1}\right)\right) e^{2-2\operatorname{arctanh}\left(t^{-1}\right)}}{t^2-1}\,dt$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1-4\int_1^x \frac{\left(-1+\operatorname{arctanh}\left(t^{-1}\right)\right) e^{2-2\operatorname{arctanh}\left(t^{-1}\right)}}{t^2-1}\,dt$$

Hazard Function

$$h(x) = -4\,\frac{\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right) e^{2-2\operatorname{arctanh}\left(x^{-1}\right)}}{x^2-1} \left(-1+4\int_1^x \frac{\left(-1+\operatorname{arctanh}\left(t^{-1}\right)\right) e^{2-2\operatorname{arctanh}\left(t^{-1}\right.}}{t^2-1}\right.$$

Mean

$$mu = 4\int_1^{\frac{e^2+1}{e^2-1}} \frac{x\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right) e^{2-2\operatorname{arctanh}\left(x^{-1}\right)}}{x^2-1}\,dx$$

Variance

$$sigma^2 = 4\int_1^{\frac{e^2+1}{e^2-1}} \frac{x^2\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right) e^{2-2\operatorname{arctanh}\left(x^{-1}\right)}}{x^2-1}\,dx - 16\left(\int_1^{\frac{e^2+1}{e^2-1}} \frac{x\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right.}{x^2-1}\right.$$

Moment Function

$$m(x) = \int_{1}^{\frac{-e-e^{-1}}{-e+e^{-1}}} 4\,\frac{x^r\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)e^{2-2\operatorname{arctanh}\left(x^{-1}\right)}}{x^2-1}\,dx$$

Moment Generating Function

$$\frac{4\int_{1}^{\frac{e^2+1}{e^2-1}} \frac{\left(-1+\operatorname{arctanh}\left(x^{-1}\right)\right)e^{tx+2-2\operatorname{arctanh}\left(x^{-1}\right)}}{x^2-1}\,dx_1}{}$$

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto RootOf\left(\_Z^2 - e^{2\,RootOf\left(e^{\frac{-se^{-\_Z-2}+2\,\_Z\,e^{-\_Z}-e^{-\_Z}-4\,\_Z+2}{e^{-\_Z}-2}}-e^{2\,\_Z}+2\,e^{-\_Z}\right)} + 2\,e^{RootOf\left(e^{\frac{-se^{-\_Z-2}+2}{}}\right.}\right.$$

Survivor Function

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

Hazard Function

$$h(x) = 4\,\frac{\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)e^{2-2\operatorname{arcsinh}\left(x^{-1}\right)}\left(x^2+2+2\sqrt{x^2+1}\right)}{\sqrt{x^2+1}\,|x|\left(-2\,x^2e^2\ln\left(\sqrt{x^2+1}+1\right)+2\,x^2e^2\ln\left(x\right)+x^2e^2+x^2+2\sqrt{x^2+1}+2\right)}$$

Mean

$$mu = 4\int_{0}^{2\frac{e}{e^2-1}} \frac{\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right)e^{2-2\operatorname{arcsinh}\left(x^{-1}\right)}}{\sqrt{x^2+1}}\,dx$$

Variance

$$sigma^2 = 4 \int_0^{2\,\frac{e}{e^2-1}} \frac{x\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right) e^{2-2\operatorname{arcsinh}\left(x^{-1}\right)}}{\sqrt{x^2+1}}\,dx - 16\left(\int_0^{2\,\frac{e}{e^2-1}} \frac{\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right) e}{\sqrt{x^2+1}}\right.$$

Moment Function

$$m(x) = \int_0^{2\left(e-e^{-1}\right)^{-1}} 4\,\frac{x^r\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right) e^{2-2\operatorname{arcsinh}\left(x^{-1}\right)}}{\sqrt{x^2+1}\,|x|}\,dx$$

Moment Generating Function

$$4\int_0^{2\,\frac{e}{e^2-1}} \frac{\left(-1+\operatorname{arcsinh}\left(x^{-1}\right)\right) e^{tx+2-2\operatorname{arcsinh}\left(x^{-1}\right)}}{\sqrt{x^2+1}x}\,dx_1$$

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \left(RootOf\left(e^{\_Z}\ln\left(-\frac{s}{-e^{2\,\_Z}+e^{\_Z}+1}\right)+e^{2\,\_Z}+\_Z\,e^{\_Z}-2\,e^{\_Z}-1\right)\right)^{-1}]$$

Survivor Function

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

Hazard Function

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

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

Probability Distribution Function

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

Cumulative Distribution Function

$$F(x) = 4\int_1^x \frac{\operatorname{arccsch}\left((t-1)^{-1}\right)}{\sqrt{t^2-2\,t+2}\left(t-1+\sqrt{t^2-2\,t+2}\right)^2}\,dt$$

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

$$S(x) = 1-4\int_1^x \frac{\operatorname{arccsch}\left((t-1)^{-1}\right)}{\sqrt{t^2-2\,t+2}\left(t-1+\sqrt{t^2-2\,t+2}\right)^2}\,dt$$

Hazard Function

$$h(x) = -4\,\frac{\operatorname{arccsch}\left((x-1)^{-1}\right)}{\sqrt{x^2-2\,x+2}\left(x-1+\sqrt{x^2-2\,x+2}\right)^2}\left(-1+4\int_1^x \frac{\operatorname{arccsch}\left((t-1)^{-1}\right)}{\sqrt{t^2-2\,t+2}\left(t-1+\sqrt{t^2-2\,t\right.}}\right.$$

Mean

$$mu = \int_1^\infty 4\,\frac{x\operatorname{arccsch}\left((x-1)^{-1}\right)}{\sqrt{x^2-2\,x+2}\left(x-1+\sqrt{x^2-2\,x+2}\right)^2}\,dx$$

Variance

$$sigma^2 = \infty - \left(\int_1^\infty 4\,\frac{x\operatorname{arccsch}\left((x-1)^{-1}\right)}{\sqrt{x^2-2\,x+2}\left(x-1+\sqrt{x^2-2\,x+2}\right)^2}\,dx\right)^2$$

Moment Function

$$m(x) = \int_1^\infty 4\,\frac{x^r\operatorname{arccsch}\left((x-1)^{-1}\right)}{\sqrt{x^2-2\,x+2}\left(x-1+\sqrt{x^2-2\,x+2}\right)^2}\,dx$$

Moment Generating Function

$$\int_1^{\infty} 4\,\frac{e^{tx}\operatorname{arccsch}\left((x-1)^{-1}\right)}{\sqrt{x^2-2\,x+2}\left(x-1+\sqrt{x^2-2\,x+2}\right)^2}\,dx_1$$

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

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

Hazard Function

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

Mean

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

Variance

$$sigma^2 = -4\,\int_0^1 \frac{x^2}{\left(\operatorname{arctanh}(x)\right)^3 (x^2-1)} e^{-2\,(\operatorname{arctanh}(x))^{-1}}\,dx - 16\left(\int_0^1 \frac{x}{\left(\operatorname{arctanh}(x)\right)^3 (x^2-1)} e^{-2\,(\mathrm{a}\right.$$

Moment Function

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

Moment Generating Function

$$-4\int_0^1 \frac{1}{(\operatorname{arctanh}(x))^3\,(x^2-1)}\mathrm{e}^{\frac{tx\operatorname{arctanh}(x)-2}{\operatorname{arctanh}(x)}}\,\mathrm{d}x_1$$

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} =$$

Survivor Function

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

Hazard Function

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

Mean

$$mu = \int_0^\infty 4\,\frac{1}{\sqrt{x^2+1}\,(\operatorname{arccsch}(x))^3}\mathrm{e}^{-2\,(\operatorname{arccsch}(x))^{-1}}\,\mathrm{d}x$$

Variance

$$sigma^2 = \int_0^\infty 4\,\frac{x}{\sqrt{x^2+1}\,(\operatorname{arccsch}(x))^3}\mathrm{e}^{-2\,(\operatorname{arccsch}(x))^{-1}}\,\mathrm{d}x - \left(\int_0^\infty 4\,\frac{1}{\sqrt{x^2+1}\,(\operatorname{arccsch}(x))^3}\mathrm{e}^{-2\,(\operatorname{arccs}\right.$$

Moment Function

$$m(x) = \int_0^{\infty} 4\,\frac{x^r}{\sqrt{x^2+1}\,(\mathrm{arccsch}\,(x))^3\,|x|}\mathrm{e}^{-2\,(\mathrm{arccsch}(x))^{-1}}\,\mathrm{d}x$$

Moment Generating Function

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

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

Probability Distribution Function

$$f(x) = 4\,\mathrm{e}^{-2\,\sinh(x)}\cosh(x)\sinh(x)$$

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = [s \mapsto \mathit{RootOf}\left(\mathrm{e}^{\left(2\,\_Z\,\mathrm{e}^{\_Z}+1\right)\mathrm{e}^{-\_Z}} + s\mathrm{e}^{\_Z+\mathrm{e}^{\_Z}} + \mathrm{e}^{\left(\_Z\,\mathrm{e}^{\_Z}+1\right)\mathrm{e}^{-\_Z}} - \mathrm{e}^{\_Z+\mathrm{e}^{\_Z}} - \mathrm{e}^{\mathrm{e}^{-\_Z}}\right)]$$

Survivor Function

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

Hazard Function

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

Mean

$$mu = \int_0^{\infty} 2\,x\mathrm{e}^{-2\,\sinh(x)}\sinh(2\,x)\,\mathrm{d}x$$

Variance

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

Moment Function

$$m(x) = \int_0^{\infty} 4\,x^r\mathrm{e}^{-2\,\sinh(x)}\cosh(x)\sinh(x)\,\mathrm{d}x$$

Moment Generating Function

$$\int_0^{\infty} 2\,\mathrm{e}^{tx-2\,\sinh(x)}\sinh(2\,x)\,\mathrm{d}x_1$$