"MuthRV(1)"

$$[x \mapsto (e^{x} - 1)\, e^{-e^{x}+x+1}]$$

---

$$t \mapsto t^2$$

Probability Distribution Function

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

Cumulative Distribution Function

$$F(x) = -e^{-e^{\sqrt{x}}+\sqrt{x}+1} + 1$$

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

$$m(x) = \int_0^\infty 1/2\,\frac{x^r\left(e^{\sqrt{x}} - 1\right) e^{-e^{\sqrt{x}}+\sqrt{x}+1}}{\sqrt{x}}\,dx$$

Moment Generating Function

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

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = ERROR(IDF) : Couldnotfindtheappropriateinverse$$

ERROR(IDF): Could not find the appropriate inverse
[] Survivor Function

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

Hazard Function

$$h(x) = 2\left(e^{x^2} - 1\right)x$$

Mean

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

Variance

$$sigma^2 = 1 - \left(\int_0^\infty 2\,x^2\left(e^{x^2} - 1\right)e^{-e^{x^2}+x^2+1}\,dx\right)^2$$

Moment Function

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

Moment Generating Function

$$\int_0^\infty 2\left(e^{x^2} - 1\right)xe^{tx-e^{x^2}+x^2+1}\,dx_1$$

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

$$S(x) = 1 - \mathrm{e}^{-\frac{\mathrm{e}^{x^{-1}} x - x - 1}{x}}$$

Hazard Function

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

Mean

$$mu = \int_0^\infty \frac{\mathrm{e}^{x^{-1}} - 1}{x} \mathrm{e}^{-\frac{\mathrm{e}^{x^{-1}} x - x - 1}{x}} \, \mathrm{d}x$$

Variance

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

Moment Function

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

Moment Generating Function

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

---

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

Probability Distribution Function

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

Cumulative Distribution Function

$$F(x) = -e^{-e^{\tan(x)} + \tan(x) + 1} + 1$$

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

$$mu = \int_0^{\pi/2} \frac{x}{(\cos(x))^2} \left( e^{-\frac{1}{\cos(x)}\left(e^{\frac{\sin(x)}{\cos(x)}} \cos(x) - 2\sin(x) - \cos(x)\right)} - e^{-\frac{1}{\cos(x)}\left(e^{\frac{\sin(x)}{\cos(x)}} \cos(x) - \sin(x) - \cos(x)\right)} \right) dx$$

Variance

$$sigma^2 = \int_0^{\pi/2} \frac{x^2}{(\cos(x))^2} \left( e^{-\frac{1}{\cos(x)}\left(e^{\frac{\sin(x)}{\cos(x)}} \cos(x) - 2\sin(x) - \cos(x)\right)} - e^{-\frac{1}{\cos(x)}\left(e^{\frac{\sin(x)}{\cos(x)}} \cos(x) - \sin(x) - \cos(x)\right)} \right)$$

Moment Function

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

Moment Generating Function

$$\int_0^{\pi/2} (\tan(x))^2 e^{tx - e^{\tan(x)} + 2\tan(x) + 1} - e^{tx - e^{\tan(x)} + \tan(x) + 1} (\tan(x))^2 + e^{tx - e^{\tan(x)} + 2\tan(x) + 1} - e^{tx - e^{\tan(x)} + \mathrm{ta}}$$

$$t \mapsto e^t$$

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

$$h(x) = \frac{x-1}{x}$$

Mean

$$mu = 3$$

Variance

$$sigma^2 = 2$$

Moment Function

$$m(x) = \mathrm{e}\left(\frac{\pi\ \csc(\pi\,r)}{\Gamma(-r-1)} - \mathrm{e}^{-1/2} M_{r/2,\,r/2+1/2}(1) - \frac{(-2-r)\,\mathrm{e}^{-1/2} M_{r/2+1,\,r/2+1/2}(1)}{r+2}\right) - \mathrm{e}\left(-\frac{\pi\ \csc(}{\Gamma(-}\right.$$

Moment Generating Function

$$\lim_{x\to\infty} \frac{\mathrm{e}^{tx-x+1}tx - t\mathrm{e}^{tx-x+1} - \mathrm{e}^{tx-x+1}x + \mathrm{e}^{t}}{t^2 - 2\,t + 1}\ {}_1$$

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

$$h(x) = \left(\mathrm{e}^{\mathrm{e}^{x}} - 1\right)\mathrm{e}^{x}$$

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

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

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

$$mu = -e Ei\,(1,1) + 1$$

Variance

$$sigma^2 = -e^2\,(Ei\,(1,1))^2 + 4\,e Ei\,(1,1) - 2$$

Moment Function

$$m(x) = -e\left(\frac{\pi\ \csc\,(\pi\, r)}{\Gamma\,(r)} + \frac{e^{-1/2} M_{-r/2,\,-r/2+1/2}\,(1)}{r-1}\right) + e\left(-\frac{\pi\ \csc\,(\pi\, r)}{\Gamma\,(r-1)} + \frac{(2-r)\,e^{-1/2} M_{-r/2,\,-r/2}}{r-2}\right.$$

Moment Generating Function

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

---

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

Probability Distribution Function

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

Cumulative Distribution Function

$$F(x) = e^{-e^{e^{-x}} + 1 + e^{-x}}$$

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

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

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

$$h(x) = \left(\mathrm{e}^{\mathrm{e}^{x}-1} - 1\right) \mathrm{e}^{x}$$

Mean

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

Variance

$$sigma^2 = \int_0^\infty x^2 \left(e^{e^x-1}-1\right) e^{-e^{e^x-1}+e^x+x}\, dx - \left(\int_0^\infty x \left(e^{e^x-1}-1\right) e^{-e^{e^x-1}+e^x+x}\, dx\right)^2$$

Moment Function

$$m(x) = \int_0^\infty x^r \left(e^{e^x-1}-1\right) e^{-e^{e^x-1}+e^x+x}\, dx$$

Moment Generating Function

$$\int_0^\infty \left(e^{e^x-1}-1\right) e^{tx-e^{e^x-1}+e^x+x}\, dx_1$$

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

$$\int_0^{(\ln(2))^{-1}} \frac{\mathrm{e}^{\mathrm{e}^{x^{-1}}-2}-1}{x^2} \mathrm{e}^{\frac{tx^2+\mathrm{e}^{x^{-1}}x-\mathrm{e}^{\mathrm{e}^{x^{-1}}-2}x-x+1}{x}}\, \mathrm{d}x_1$$

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = "UnabletofindIDF"$$

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

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

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = "UnabletofindIDF"$$

Survivor Function

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

Hazard Function

$$h(x) = -\frac{\left(x+\sqrt{x^2+1}-1\right) e^{-x-\sqrt{x^2+1}+\operatorname{arcsinh}(x)+1}}{\sqrt{x^2+1}} \left(-1+\int_0^x \frac{\left(t+\sqrt{t^2+1}-1\right) e^{-t-\sqrt{t^2+1}+\operatorname{arcsinh}(}}{\sqrt{t^2+1}}\right.$$

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

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

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

$$\int_0^{\infty}\left(\mathrm{e}^{\sinh(x)}-1\right)\cosh(x)\,\mathrm{e}^{tx-\mathrm{e}^{\sinh(x)}+\sinh(x)+1}\,\mathrm{d}x_1$$

---

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = ''UnabletofindIDF''$$

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

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

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

$$\int_0^{\ln\left(1+\sqrt{2}\right)} \frac{\cosh(x)}{(\sinh(x))^2}\left(\mathrm{e}^{-\frac{1}{\sinh(x)}\left(-tx\sinh(x)+\mathrm{e}^{-\frac{\sinh(x)-1}{\sinh(x)}}\sinh(x)+\sinh(x)-2\right)}-\mathrm{e}^{-\frac{1}{\sinh(x)}\left(-tx\sinh(x)+\mathrm{e}^{-\frac{\sinh(x)-1}{\sinh(x)}}\right.}\right.$$

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

$$\frac{\displaystyle\int_{1}^{\frac{e^2+1}{e^2-1}} \frac{\left(e^{-1+\operatorname{arctanh}\left(x^{-1}\right)} - 1\right) e^{tx-e^{-1+\operatorname{arctanh}\left(x^{-1}\right)}+\operatorname{arctanh}\left(x^{-1}\right)}}{x^2-1}\, \mathrm{d}x_1}{t \mapsto \left(\sinh\left(t+1\right)\right)^{-1}}$$

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

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

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

$$mu = "Unabletofind Mean"$$

$$Variance$$

sigma$^2$ = $"Unabletofind Variance"$

Moment Function

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

Moment Generating Function

$$"unabletocalculate MGF"$$

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Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = "UnabletofindIDF"$$

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

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

-

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

$$h(x) = \frac{\mathrm{e}^{(\operatorname{arctanh}(x))^{-1}}-1}{(\operatorname{arctanh}(x))^2\,(x^2-1)}\mathrm{e}^{-\frac{\mathrm{e}^{(\operatorname{arctanh}(x))^{-1}}\operatorname{arctanh}(x)-\operatorname{arctanh}(x)-1}{\operatorname{arctanh}(x)}}\Bigg((1-x)^{\frac{1}{\ln(x+1)-\ln(1-x)}}\Big(\mathrm{e}^{2\,(\ln(x+1)-\ln(1-x)}$$

Mean

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

Variance

$$sigma^2 = -\int_0^1 \frac{x^2\left(\mathrm{e}^{(\operatorname{arctanh}(x))^{-1}}-1\right)}{(\operatorname{arctanh}(x))^2\,(x^2-1)}\mathrm{e}^{-\frac{\mathrm{e}^{(\operatorname{arctanh}(x))^{-1}}\operatorname{arctanh}(x)-\operatorname{arctanh}(x)-1}{\operatorname{arctanh}(x)}}\,\mathrm{d}x-\Bigg(\int_0^1 \frac{x\Big(\mathrm{e}^{(\operatorname{arctanh}(x))^{-1}}}{(\operatorname{arctanh}(x))^2\,(x}$$

Moment Function

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

Moment Generating Function

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

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

$$F^{-1} = "UnabletofindIDF"$$

Survivor Function

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

Hazard Function

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

Mean

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

Variance

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

Moment Function

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

Moment Generating Function

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

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

Probability Distribution Function

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

Cumulative Distribution Function

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

Inverse Cumulative Distribution Function

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

Survivor Function

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

Hazard Function

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

Mean

$$mu = \int_0^\infty x\left(e^{\sinh(x)} - 1\right) e^{-e^{\sinh(x)}+\sinh(x)+1} \cosh(x)\, dx$$

Variance

$$sigma^2 = \int_0^\infty \cosh(x)\, x^2 \left(e^{-e^{\sinh(x)}+2\,\sinh(x)+1} - e^{-e^{\sinh(x)}+\sinh(x)+1}\right) dx - \left(\int_0^\infty x\left(e^{\sinh(x)} - 1\right) e^{-e^{\sin}}\right.$$

Moment Function

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

Moment Generating Function

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