"LogLogisticRV(a,b)"

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

$$t \mapsto t^2$$

Probability Distribution Function

$$f(x) = 1/2\,\frac{a^{b}b\,x^{b/2-1}}{\left(1+a^{b}x^{b/2}\right)^{2}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = 2\,\frac{a^{b}b\,\left(x^{2}\right)^{b}}{x\left(1+a^{b}\left(x^{2}\right)^{b}\right)^{2}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{a^{b}b\,\left(x^{-1}\right)^{b}}{x\left(1+a^{b}\left(x^{-1}\right)^{b}\right)^{2}} \qquad 0 < x < \infty$$

$$t \mapsto \arctan(t)$$

Probability Distribution Function

$$f(x) = \frac{a^{b}b\,\left(\tan(x)\right)^{b-1}\left(1+\left(\tan(x)\right)^{2}\right)}{\left(1+a^{b}\left(\tan(x)\right)^{b}\right)^{2}} \qquad 0 < x < \pi/2$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \, (\ln(x))^{b-1}}{\left(1 + a^b (\ln(x))^b\right)^2 x} \qquad 1 < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \, \mathrm{e}^{b\,x}}{(1 + a^b \mathrm{e}^{b\,x})^2} \qquad -\infty < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \, (-\ln(x))^{b-1}}{\left(1 + a^b (-\ln(x))^b\right)^2 x} \qquad 0 < x < 1$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \, \mathrm{e}^{-b\,x}}{(1 + a^b \mathrm{e}^{-b\,x})^2} \qquad -\infty < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(e^x - 1\right)^{b-1} e^x}{\left(1 + a^b \left(e^x - 1\right)^b\right)^2} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(e^{x^{-1}} - 2\right)^{b-1} e^{x^{-1}}}{\left(1 + a^b \left(e^{x^{-1}} - 2\right)^b\right)^2 x^2} \qquad 0 < x < (\ln(2))^{-1}$$

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

Probability Distribution Function

$$f(x) = -\frac{a^b b \left(\operatorname{arctanh}(x)\right)^{b-1}}{\left(1 + a^b \left(\operatorname{arctanh}(x)\right)^b\right)^2 \left(x^2 - 1\right)} \qquad 0 < x < 1$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(\operatorname{arcsinh}(x)\right)^{b-1}}{\left(1 + a^b \left(\operatorname{arcsinh}(x)\right)^b\right)^2 \sqrt{x^2 + 1}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(\sinh(x)\right)^{b-1} \cosh(x)}{\left(1 + a^b \left(\sinh(x)\right)^b\right)^2} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(-1 + \operatorname{arccsch}(x)\right)^{b-1}}{\sqrt{x^2+1}\left(1 + a^b \left(-1 + \operatorname{arccsch}(x)\right)^b\right)^2 |x|} \qquad 0 < x < 2\left(\mathrm{e} - \mathrm{e}^{-1}\right)^{-1}$$

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

Probability Distribution Function

$$f(x) = -\frac{a^b b \cosh(x)}{(\sinh(x) - 1)\sinh(x)} \left(-\frac{\sinh(x) - 1}{\sinh(x)}\right)^b \left(1 + a^b \left(-\frac{\sinh(x) - 1}{\sinh(x)}\right)^b\right)^{-2} \qquad 0 < x < \mathrm{ln}$$

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(-1 + \operatorname{arcsinh}(x^{-1})\right)^{b-1}}{\sqrt{x^2+1}\left(1 + a^b \left(-1 + \operatorname{arcsinh}(x^{-1})\right)^b\right)^2 |x|} \qquad 0 < x < 2\left(\mathrm{e} - \mathrm{e}^{-1}\right)^{-1}$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(-1 + \sinh\left(x^{-1}\right)\right)^{b-1} \cosh\left(x^{-1}\right)}{\left(1 + a^b \left(-1 + \sinh\left(x^{-1}\right)\right)^b\right)^2 x^2} \qquad 0 < x < \left(\ln\left(1 + \sqrt{2}\right)\right)^{-1}$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^{b-1}}{\sqrt{x^2 - 2x + 2}\left(1 + a^b \left(\operatorname{arccsch}\left((x-1)^{-1}\right)\right)^b\right)^2} \qquad 1 < x < \infty$$

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

Probability Distribution Function

$$f(x) = -\frac{a^b b \left(\left(\operatorname{arctanh}(x)\right)^{-1}\right)^b}{\operatorname{arctanh}(x)\left(1 + a^b \left(\left(\operatorname{arctanh}(x)\right)^{-1}\right)^b\right)^2 \left(x^2 - 1\right)} \qquad 0 < x < 1$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(\operatorname{arccsch}(x)\right)^{-b-1}}{\sqrt{x^2 + 1}\left(1 + a^b \left(\operatorname{arccsch}(x)\right)^{-b}\right)^2 |x|} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{a^b b \left(\sinh(x)\right)^{b-1} \cosh(x)}{\left(1 + a^b \left(\sinh(x)\right)^b\right)^2} \qquad 0 < x < \infty$$