"ChiSquareRV(a)"

$$[x \mapsto \frac{x^{a/2-1}\mathrm{e}^{-x/2}}{2^{a/2}\Gamma\left(a/2\right)}]$$

$$t \mapsto t^2$$

Probability Distribution Function

$$f(x) = \frac{2^{-1-a/2}x^{a/4-1}\mathrm{e}^{-1/2\,\sqrt{x}}}{\Gamma\left(a/2\right)} \qquad 0 < x < \infty$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = \frac{(\ln(x))^{a/2-1}\, 2^{-a/2}}{x^{3/2}\Gamma(a/2)} \qquad 1 < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{e^{1/2\,xa-1/2\,e^{x}}\,2^{-a/2}}{\Gamma(a/2)} \qquad -\infty < x < \infty$$

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

Probability Distribution Function

$$f(x) = -\frac{(-1/2\,\ln(x))^{a/2}}{\ln(x)\sqrt{x}\Gamma(a/2)} \qquad 0 < x < 1$$

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

Probability Distribution Function

$$f(x) = \frac{e^{-1/2\,xa-1/2\,e^{-x}}\,2^{-a/2}}{\Gamma(a/2)} \qquad -\infty < x < \infty$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = \frac{\left(\sinh\left(x\right)\right)^{a/2-1} e^{-1/2\,\sinh(x)} 2^{-a/2} \cosh\left(x\right)}{\Gamma\left(a/2\right)} \qquad 0 < x < \infty$$

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = -\frac{\cosh(x)}{\Gamma(a/2)(\sinh(x)-1)\sinh(x)} e^{1/2\,\frac{\sinh(x)-1}{\sinh(x)}} \left(-1/2\,\frac{\sinh(x)-1}{\sinh(x)}\right)^{a/2} \qquad 0 < x < \ln \left(1 + \right.$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = -\frac{\left((\operatorname{arctanh}(x))^{-1}\right)^{a/2} 2^{-a/2}}{\operatorname{arctanh}(x)\left(x^2-1\right)\Gamma(a/2)} e^{-1/2\,(\operatorname{arctanh}(x))^{-1}} \qquad 0 < x < 1$$

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

Probability Distribution Function

$$f(x) = \frac{(\operatorname{arccsch}(x))^{-1-a/2}\, 2^{-a/2}}{\sqrt{x^2+1}\,\Gamma(a/2)\,|x|} e^{-1/2\,(\operatorname{arccsch}(x))^{-1}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = \frac{(\sinh(x))^{a/2-1}\, e^{-1/2\,\sinh(x)} 2^{-a/2} \cosh(x)}{\Gamma(a/2)} \qquad 0 < x < \infty$$