"InverseGaussianRV(a,b)"

$$[x \mapsto 1/2\,\sqrt{2}\sqrt{\frac{a}{\pi\,x^3}}\mathrm{e}^{-1/2\,\frac{a\,(x-b)^2}{b^2x}}]$$

$$t \mapsto t^2$$

Probability Distribution Function

$$f(x) = 1/4\,\frac{\sqrt{2}\sqrt{a}\sqrt{x^{-3/2}}}{\sqrt{\pi}\sqrt{x}}\mathrm{e}^{-1/2\,\frac{a\,(\sqrt{x}-b)^2}{b^2\sqrt{x}}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = 1/2\,\frac{\sqrt{2} signum\,(x)\,\sqrt{a}}{\sqrt{\pi}\sqrt{x}}\mathrm{e}^{-1/2\,\frac{a\,(b\,x-1)^2}{xb^2}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = 1/2\,\frac{\sqrt{2}\sqrt{a}\sqrt{(\ln(x))^{-3}}}{\sqrt{\pi}x}\mathrm{e}^{-1/2\,\frac{a(\ln(x)-b)^2}{b^2\ln(x)}} \qquad 1 < x < \infty$$

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = 1/2\,\frac{\sqrt{2}\sqrt{a}}{\sqrt{\pi}x}\sqrt{-(\ln(x))^{-3}}\mathrm{e}^{1/2\,\frac{a(\ln(x)+b)^2}{b^2\ln(x)}} \qquad 0 < x < 1$$

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = 1/2\,\frac{\sqrt{2}\sqrt{a}\sqrt{(\mathrm{e}^{x}-1)^{-1}}}{\sqrt{\pi}\,|\mathrm{e}^{x}-1|}\mathrm{e}^{-1/2\,\frac{-2\,xb^2\mathrm{e}^{x}+a\,\mathrm{e}^{2\,x}-2\,\mathrm{e}^{x}a\,b+a\,b^2+2\,xb^2-2\,\mathrm{e}^{x}a+2\,a\,b+a}{b^2(\mathrm{e}^{x}-1)}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = 1/2\,\frac{\sqrt{2}\sqrt{a}\sqrt{\left(e^{x^{-1}}-2\right)^{-1}}}{\sqrt{\pi}x^2\left|e^{x^{-1}}-2\right|}e^{-1/2\,\frac{1}{b^2\left(e^{x^{-1}}-2\right)x}(e^{2\,x^{-1}}a\,x-2\,e^{x^{-1}}a\,b\,x+a\,b^2x-4\,e^{x^{-1}}a\,x-2\,b^2e^{x^{-1}}+4\,a\,b\,x+4\,a\,x-}$$

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

Probability Distribution Function

$$f(x) = -1/2\,\frac{\sqrt{2}\sqrt{a}\sqrt{(\operatorname{arctanh}(x))^{-3}}}{\sqrt{\pi}\left(x^2-1\right)}e^{-1/2\,\frac{a\,(\operatorname{arctanh}(x)-b)^2}{b^2\operatorname{arctanh}(x)}} \qquad 0 < x < 1$$

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

Probability Distribution Function

$$f(x) = 1/2\,\frac{\sqrt{2}\,signum\,(x)\,\sqrt{a}\sqrt{(\operatorname{arcsinh}(x))^{-1}}}{\operatorname{arcsinh}(x)\,\sqrt{\pi}\sqrt{x^2+1}}e^{-1/2\,\frac{a\,(\operatorname{arcsinh}(x)-b)^2}{b^2\operatorname{arcsinh}(x)}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = 1/2\,\frac{\sqrt{2}\sqrt{a}\sqrt{(-1+\operatorname{arccsch}(x))^{-3}}}{\sqrt{\pi}\sqrt{x^2+1}\,|x|}e^{-1/2\,\frac{a\,(-1+\operatorname{arccsch}(x)-b)^2}{b^2(-1+\operatorname{arccsch}(x))}} \qquad 0 < x < 2\,\left(e-e^{-1}\right)^{-1}$$

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

Probability Distribution Function

$$f(x) = 1/2\,\frac{\sqrt{2}\mathit{signum}(x)\sqrt{a}\cosh(x)}{\sinh(x)\sqrt{\pi}\,|\sinh(x)-1|}\sqrt{-\frac{\sinh(x)}{\sinh(x)-1}}\mathrm{e}^{1/2\,\frac{a\,(b\,\sinh(x)+\sinh(x)-1)^2}{\sinh(x)b^2(\sinh(x)-1)}} \qquad 0 < x < \ln\Big(1+$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = 1/2\,{\frac {\sqrt {2}\sqrt {a}\sqrt {\left({\rm arccsch} \left(\left(x-1 \right) ^{-1} \right) \right) ^{-3}}}{\sqrt {\pi }\sqrt {{x}^{2}-2\,x+2}}}{{\rm e}^{-1/2\,{\frac {a \left({\rm arccsch} \left(\left(x-1 \right) ^{-1} \right) -b \right) ^{2}}{{b}^{2}{\rm arccsch} \left(\left(x-1 \right) ^{-1} \right) }}}} \qquad 1 < x < \infty$$

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

Probability Distribution Function

$$f(x) = -1/2\,{\frac {\sqrt {2}\sqrt {a}\sqrt { \left({\rm arctanh} \left(x \right) \right) ^{3}}}{\sqrt {\pi } \left({\rm arctanh} \left(x \right) \right) ^{2} \left({x}^{2}-1 \right) }}{{\rm e}^{-1/2\,{\frac {a \left(b{\rm arctanh} \left(x \right) -1 \right) ^{2}}{{\rm arctanh} \left(x \right) {b}^{2}}}}} \qquad 0 < x < 1$$

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

Probability Distribution Function

$$f(x) = 1/2\,{\frac {\sqrt {2}\sqrt {a}\sqrt { \left({\rm arccsch} \left(x \right) \right) ^{3}}}{\sqrt {\pi }\sqrt {{x}^{2}+1} \left({\rm arccsch} \left(x \right) \right) ^{2} \left| x \right| }}{{\rm e}^{-1/2\,{\frac {a \left(b{\rm arccsch} \left(x \right) -1 \right) ^{2}}{{\rm arccsch} \left(x \right) {b}^{2}}}}} \qquad 0 < x < \infty$$

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

Probability Distribution Function

$$f(x) = 1/2\,{\frac {\sqrt {2}{\it signum} \left(x \right) \sqrt {a}\sqrt { \left(\sinh \left(x \right) \right) ^{-1}}\cosh \left(x \right) }{\sinh \left(x \right) \sqrt {\pi }}}{{\rm e}^{-1/2\,{\frac {a \left(\sinh \left(x \right) -b \right) ^{2}}{{b}^{2}\sinh \left(x \right) }}}} \qquad 0 < x < \infty$$