"MakehamRV(a,b,c)"

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

$$t \mapsto t^2$$

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = \frac{a+b\,\sqrt[x]{c}}{x^2}\mathrm{e}^{-\frac{b\,x\,\sqrt[x]{c}+a\,\ln(c)-b\,x}{x\ln(c)}} \qquad 0<x<\infty$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = -\frac{a + b\,c^{\operatorname{arctanh}(x)}}{x^2-1}\mathrm{e}^{-\frac{a\operatorname{arctanh}(x)\ln(c)+b\,c^{\operatorname{arctanh}(x)}-b}{\ln(c)}} \qquad 0 < x < 1$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = -\frac{a + b\, c^{(\operatorname{arctanh}(x))^{-1}}}{(\operatorname{arctanh}(x))^2 (x^2 - 1)} \mathrm{e}^{-\frac{b \operatorname{arctanh}(x) c^{(\operatorname{arctanh}(x))^{-1}} + a \ln(c) - b \operatorname{arctanh}(x)}{\operatorname{arctanh}(x) \ln(c)}} \qquad 0 < x < 1$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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