"BetaRV(a,b)"

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

$$t \mapsto t^2$$

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = \frac{\Gamma(a+b)\, (\tan(x))^{a-1} (1-\tan(x))^{b-1} \left(1+(\tan(x))^2\right)}{\Gamma(a)\, \Gamma(b)} \qquad 0 < x < \pi/4$$

$$t \mapsto e^t$$

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = \frac{\Gamma\left(a+b\right)\left(\mathrm{e}^{x^{-1}}-2\right)^{a-1}\left(3-\mathrm{e}^{x^{-1}}\right)^{b-1}\mathrm{e}^{x^{-1}}}{\Gamma\left(a\right)\Gamma\left(b\right)x^{2}} \qquad \left(\ln\left(3\right)\right)^{-1} < x < \left(\ln\left(2\right)\right)^{-1}$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

$$f(x) = \frac{\Gamma(a+b)\left(-1+\sinh(x^{-1})\right)^{a-1}\left(2-\sinh(x^{-1})\right)^{b-1}\cosh(x^{-1})}{\Gamma(a)\Gamma(b)x^2} \qquad -\left(\ln\left(\sqrt{5}-2\right)\right)^{-1} < x$$

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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

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

Probability Distribution Function

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