

"i is", 1,

"-----"
-----"

$$g := t \rightarrow t^2$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \sim \rightarrow \frac{1}{2 \sqrt{-\sqrt{y}} (-1 + \sqrt{y})} \sqrt{y} \pi \right], [0, 1], ["Continuous", "PDF"] \right]$$

$$\text{"l and u", } 0, \infty$$

$$\text{"g(x)", } x^2, \text{"base", } \frac{1}{\pi \sqrt{x} (1 - x)}, \text{"ArcSinRV()}"$$

$$\text{"f(x)", } \frac{1}{2 \sqrt{-\sqrt{x} (-1 + \sqrt{x})} \sqrt{x} \pi}$$

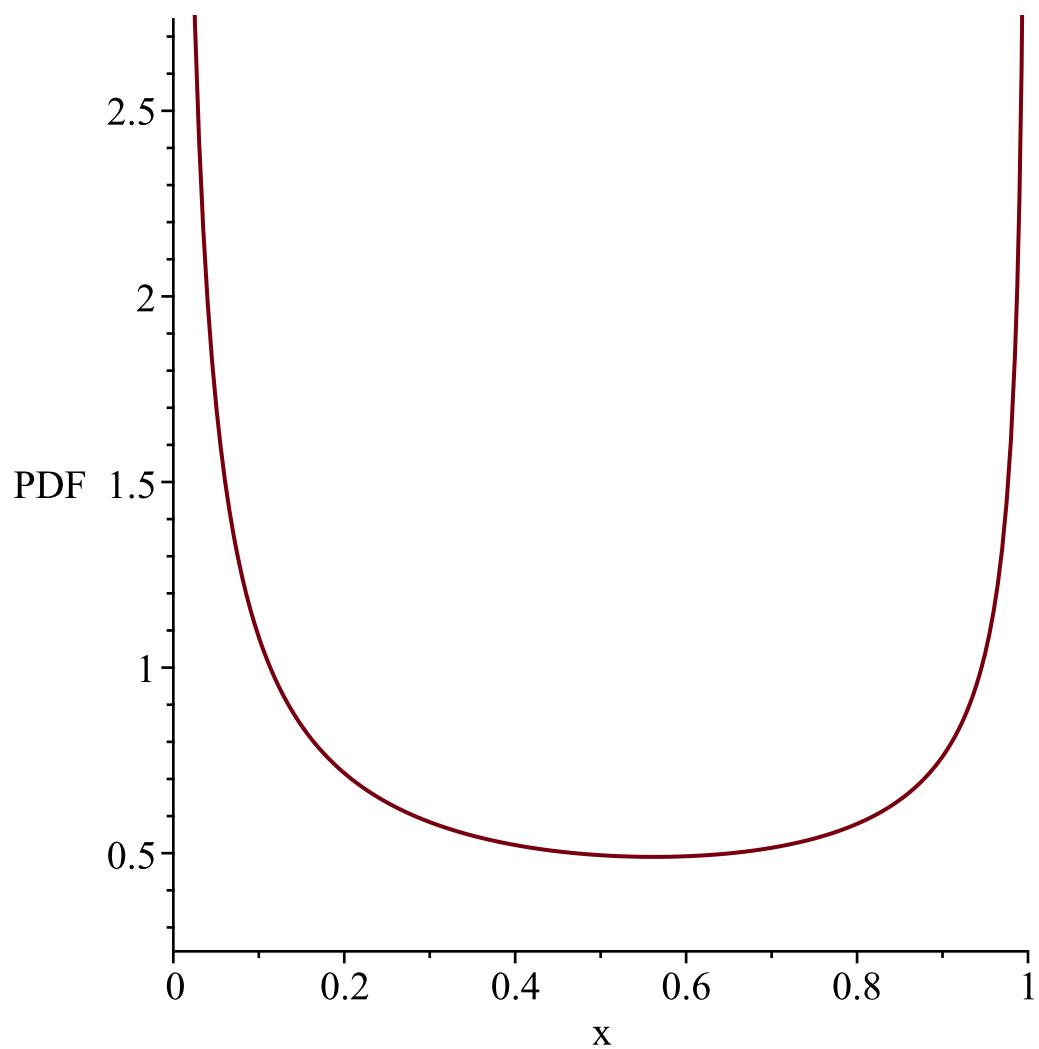
$$\text{"S(x)", } \left\{ \begin{array}{l} - \frac{I \sqrt{x} \sqrt{1 - \sqrt{x}} \sqrt{-1 + \sqrt{x}} \ln(2) - \sqrt{x} \ln(-1 + 2 \sqrt{x} + 2 x^{1/4} \sqrt{-1 + \sqrt{x}}) + x \ln(-1 + 2 \sqrt{x} + 2 x^{1/4} \sqrt{-1 + \sqrt{x}})}{\sqrt{x} \sqrt{1 - \sqrt{x}} \sqrt{-1 + \sqrt{x}} \pi} \\ - \frac{I \ln(-1 + 2 \sqrt{x} + 2 x^{1/4} \sqrt{-1 + \sqrt{x}}) (\sqrt{x} - x)}{\sqrt{x} (-1 + \sqrt{x}) \pi} \end{array} \right.$$

$$\text{"h(x)", } \left\{ \begin{array}{l} - \frac{1}{2} \frac{\sqrt{1 - \sqrt{x}} \sqrt{-1 + \sqrt{x}}}{\sqrt{-\sqrt{x} (-1 + \sqrt{x})} (I \sqrt{x} \sqrt{1 - \sqrt{x}} \sqrt{-1 + \sqrt{x}} \ln(2) - \sqrt{x} \ln(-1 + 2 \sqrt{x} + 2 x^{1/4} \sqrt{-1 + \sqrt{x}}) + x \ln(-1 + 2 \sqrt{x} + 2 x^{1/4} \sqrt{-1 + \sqrt{x}}))} \\ \frac{1}{2} \frac{\sqrt{-1 + \sqrt{x}}}{x^{1/4} \ln(-1 + 2 \sqrt{x} + 2 x^{1/4} \sqrt{-1 + \sqrt{x}})} \end{array} \right.$$

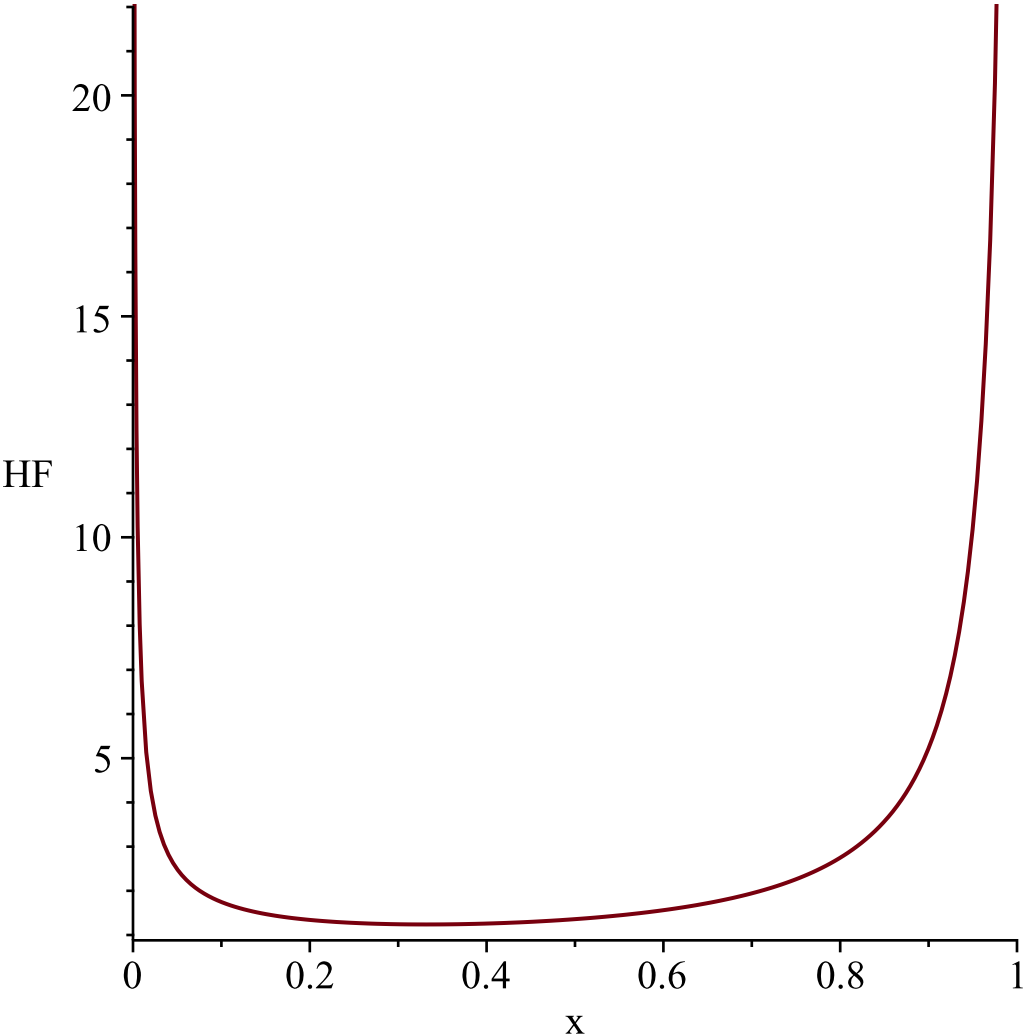
$$\text{"mean and variance", } \frac{3}{8}, \frac{17}{128}$$

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 1*

Resetting high to RV's maximum support value



*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 1
Resetting high to RV's maximum support value*



```
1/2\,{\frac {1}{\sqrt {-\sqrt {x} \left( -1+\sqrt {x} \right) }}
\sqrt {
x}\pi}}
"i is", 2,
"
-----"
-----"
```

$$g := t \rightarrow \sqrt{t}$$
$$l := 0$$
$$u := \infty$$

$$Temp := \left[\left[y \rightarrow \frac{2 \operatorname{signum}(y)}{\sqrt{-y^2 + 1} \pi} \right], [0, 1], ["Continuous", "PDF"] \right]$$
$$\text{"l and u", } 0, \infty$$
$$\text{"g(x)", } \sqrt{x}, \text{"base", } \frac{1}{\pi \sqrt{(1-x)x}}, \text{"ArcSinRV()"}$$
$$\text{"f(x)", } \frac{2 \operatorname{signum}(x)}{\sqrt{-x^2 + 1} \pi}$$

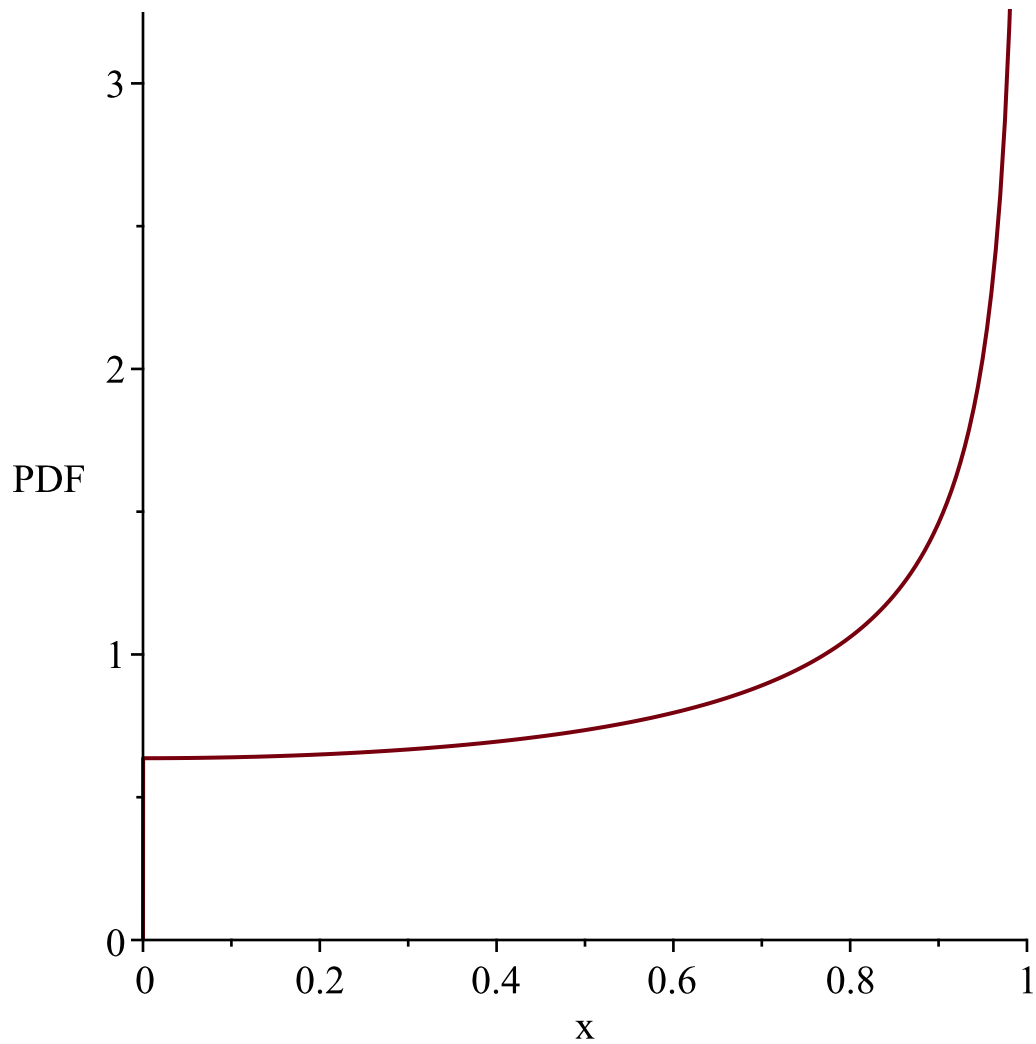
$$\text{"S(x)", } 1 - \frac{2 \arcsin(x)}{\pi}$$

$$\text{"h(x)", } \frac{2 \operatorname{signum}(x)}{\sqrt{-x^2 + 1} (\pi - 2 \arcsin(x))}$$

$$\text{"mean and variance", } \frac{2}{\pi}, \frac{1}{2} - \frac{4}{\pi^2}$$

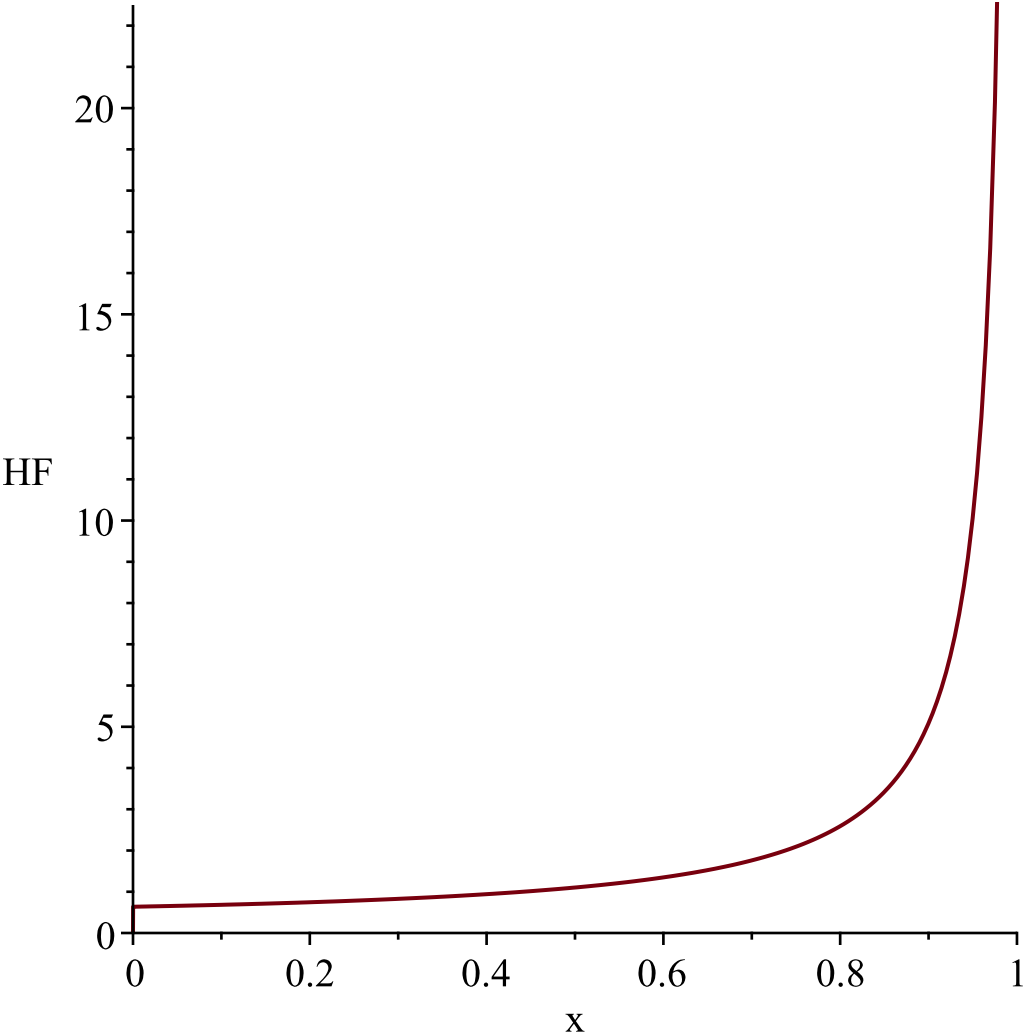
*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 1*

Resetting high to RV's maximum support value



*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 1*

Resetting high to RV's maximum support value



```
2\,{\frac {{\it signum} \left( x \right) {\sqrt {-{x}^{2}+1}}
\pi}}
"i is",3,
"
-----"
-----"
```

$$g:=t\rightarrow \frac{1}{t}$$
$$l:=0$$
$$u:=\infty$$

$$Temp:=\left[\left[y\leadsto \frac{1}{\sqrt{y-1}\,\pi |y|}\right],[1,\infty],["Continuous","PDF"]\right]$$
$$"l\text{ and }u",0,\infty$$

$$"g(x)",\frac{1}{x},\text{"base"},\frac{1}{\pi \sqrt{(1-x)\,x}},\text{"ArcSinRV()}"$$

$$"f(x)",\frac{1}{\sqrt{x-1}\,\pi |x|}$$

"S(x)", $\frac{\pi - 2 \arctan(\sqrt{x - 1})}{\pi}$

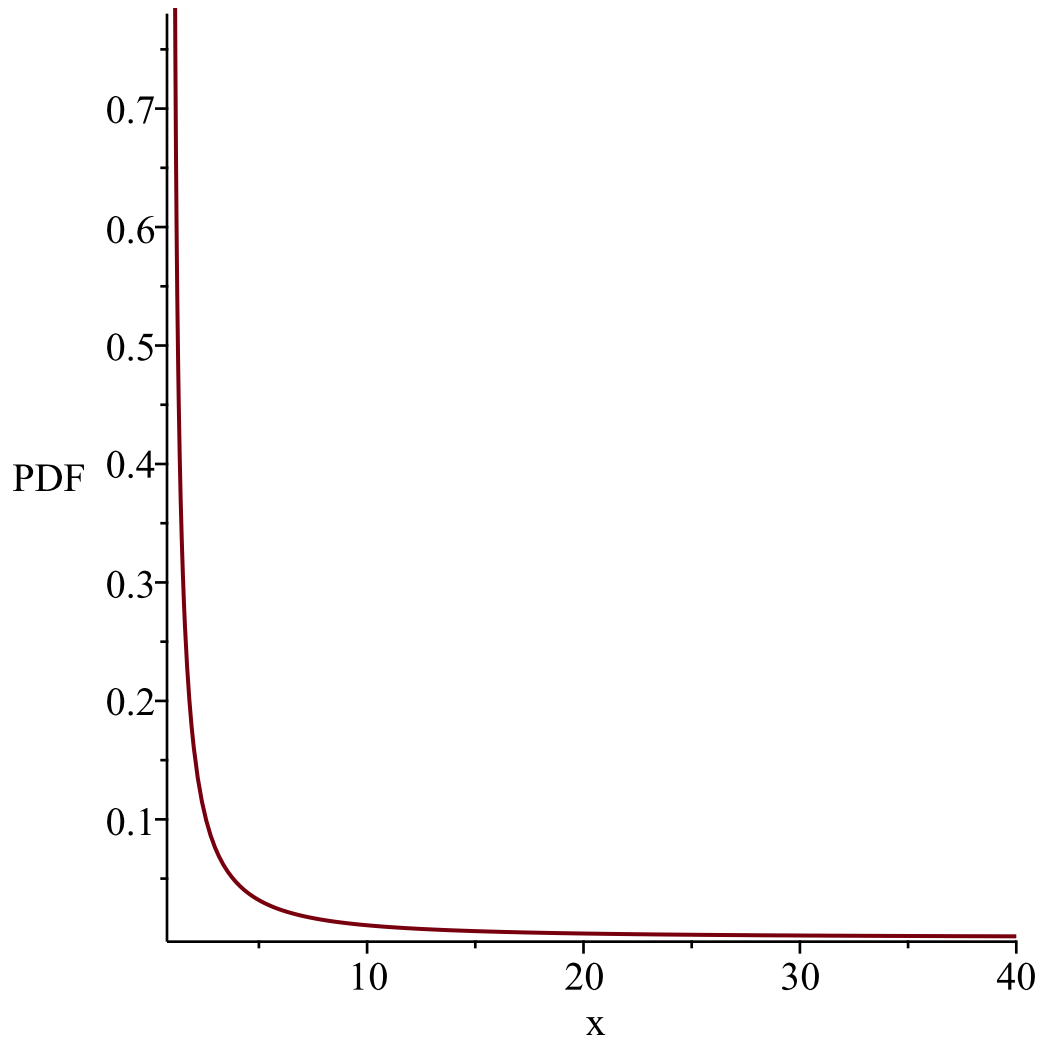
"h(x)", $\frac{1}{\sqrt{x - 1} \, |x| \left(\pi - 2 \arctan(\sqrt{x - 1}) \right)}$

"mean and variance", ∞ , *undefined*

WARNING(PlotDist): Low value provided by user, 0 is less than minimum support value of random variable

1

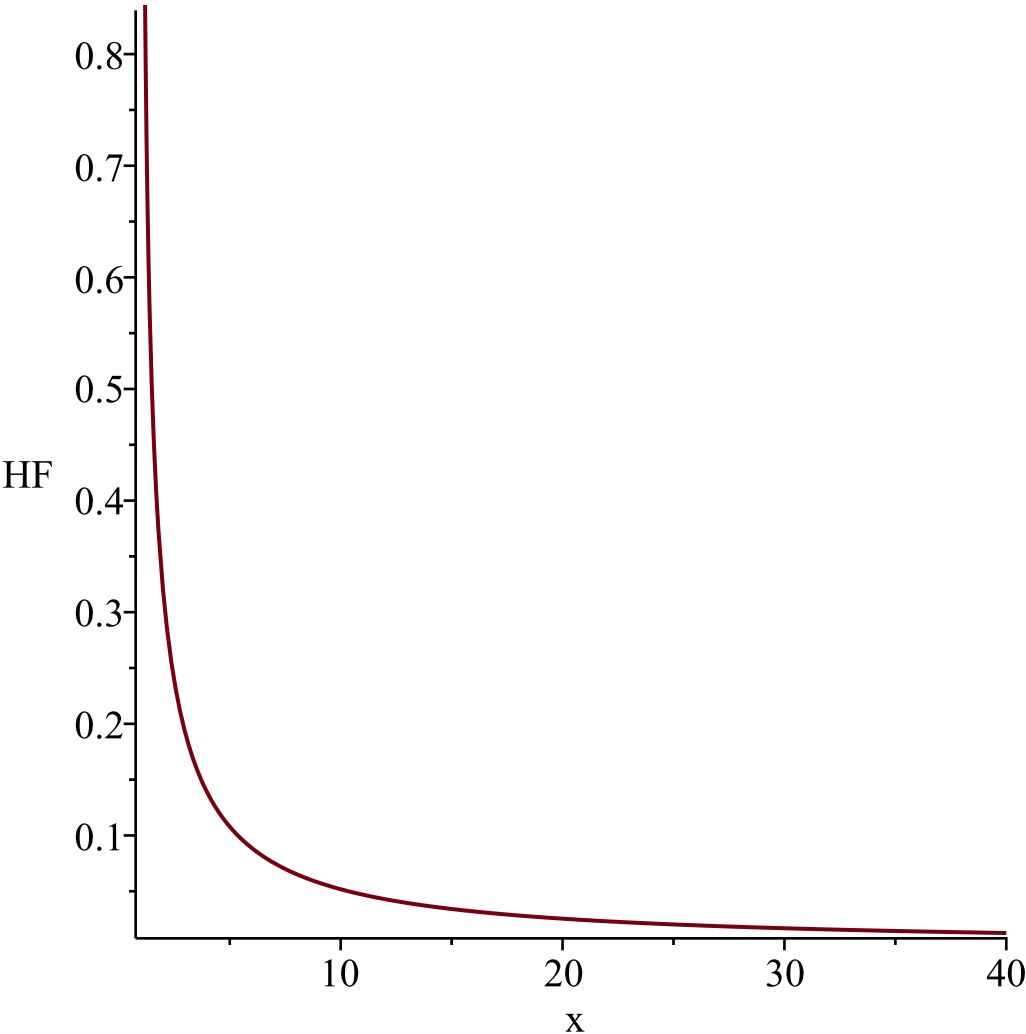
Resetting low to RV's minimum support value



WARNING(PlotDist): Low value provided by user, 0 is less than minimum support value of random variable

1

Resetting low to RV's minimum support value



```
{\frac {1}{\sqrt {x-1}\pi}, \left| x \right| }}
"i is", 4,
" -----
-----"

g := t→arctan(t)
l := 0
u := ∞

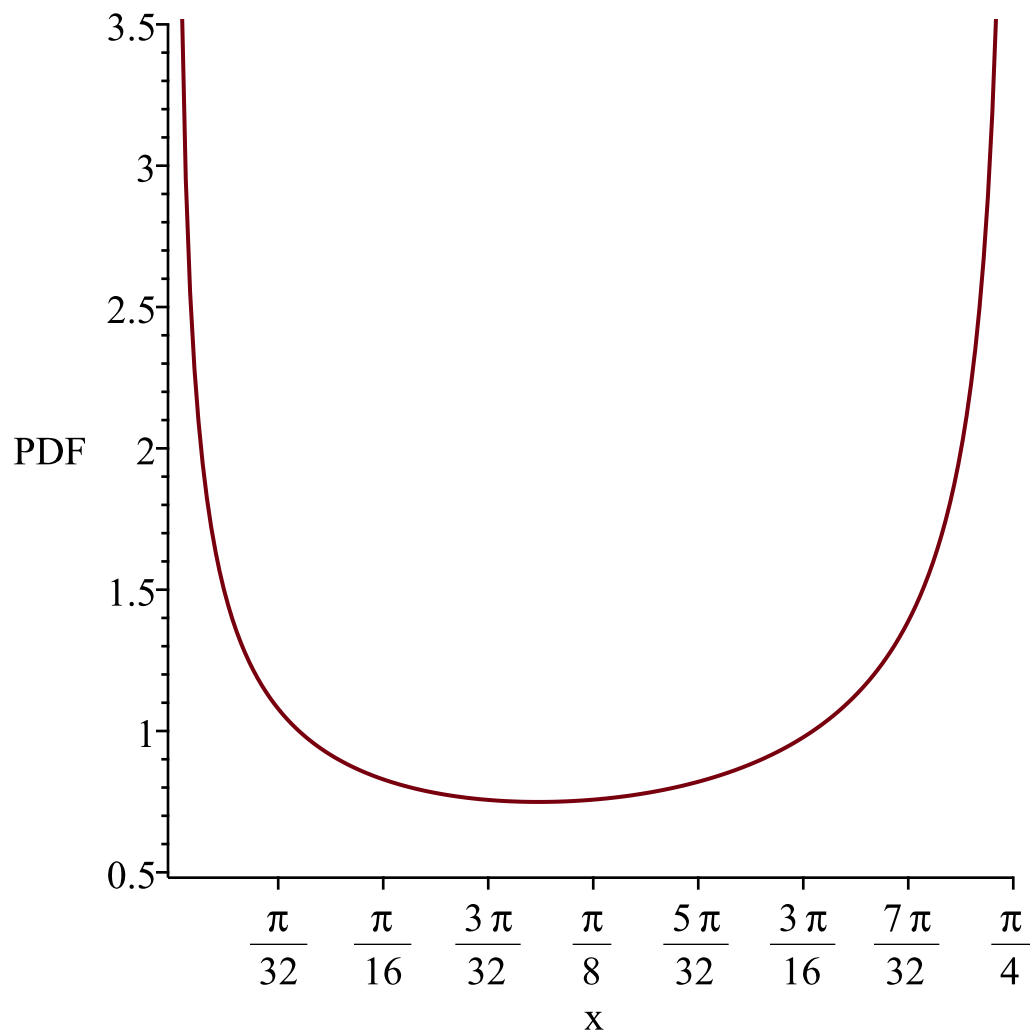
Temp := ⌊⌊y~→ $\frac{1 + \tan(y\sim)^2}{\pi \sqrt{-\tan(y\sim) \left(-1 + \tan(y\sim)\right)}}$ ⌋, ⌊0,  $\frac{1}{4} \pi$ ⌋, ["Continuous", "PDF"]⌋

"l and u", 0, ∞

"g(x)", arctan(x), "base",  $\frac{1}{\pi \sqrt{x \left(-x + 1\right)}}$ , "ArcSinRV()"

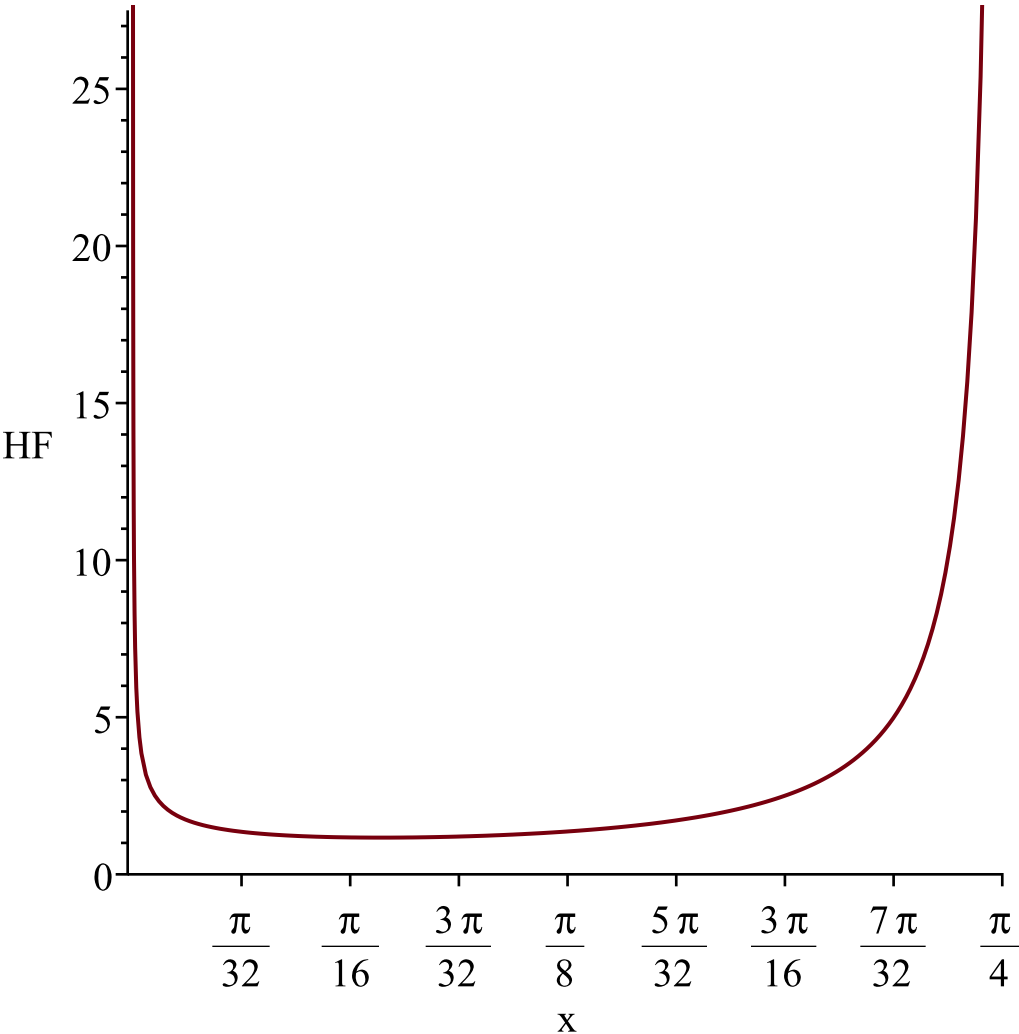
"f(x)",  $\frac{1 + \tan(x)^2}{\pi \sqrt{-\tan(x) \left(-1 + \tan(x)\right)}}$ 
```

$$\begin{aligned}
& \text{"S(x)", } \left\{ \begin{array}{ll} \frac{1}{2} \frac{\pi - 2 \arcsin(-1 + 2 \tan(x))}{\pi} & x \leq \frac{1}{2} \pi \\ \frac{1}{2} \frac{\infty I + \pi - 2 \Re(\arcsin(-1 + 2 \tan(x)))}{\pi} & \frac{1}{2} \pi < x \end{array} \right. \\
& \text{"h(x)", } \left\{ \begin{array}{ll} - \frac{2 (1 + \tan(x)^2)}{\sqrt{-\tan(x) (-1 + \tan(x))} (-\pi + 2 \arcsin(-1 + 2 \tan(x)))} & x \leq \frac{1}{2} \pi \\ 0 & \frac{1}{2} \pi < x \end{array} \right. \\
& \text{"mean and variance", } \frac{\int_0^{\frac{1}{4} \pi} \frac{x}{\cos(x) \sqrt{\sin(x)} \sqrt{\cos(x) - \sin(x)}} dx}{\pi}, \frac{1}{\pi^2} \left(\left(\int_0^{\frac{1}{4} \pi} \frac{x^2}{\cos(x) \sqrt{\sin(x)} \sqrt{\cos(x) - \sin(x)}} dx \right) \pi \right. \\
& \left. - \left(\int_0^{\frac{1}{4} \pi} \frac{x}{\cos(x) \sqrt{\sin(x)} \sqrt{\cos(x) - \sin(x)}} dx \right)^2 \right) \\
& \text{WARNING(PlotDist): High value provided by user, 40} \\
& \text{is greater than maximum support value of the random} \\
& \text{variable, } \frac{1}{4} \pi \\
& \text{Resetting high to RV's maximum support value}
\end{aligned}$$



*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, $\frac{1}{4} \pi$*

Resetting high to RV's maximum support value



```
{\frac {1+ \left( \tan \left( x \right) \right) ^{2}}{\pi },  
\sqrt {-  
\tan \left( x \right) \left( -1+\tan \left( x \right) \right) }  
}}
```

```
"i is", 5,  
" _____"  
"-----"
```

```
g := t→et  
l := 0  
u := ∞
```

```
Temp := ⌈⌊ y~→  $\frac{1}{\pi \sqrt{-\ln(y~) (-1 + \ln(y~))}}$  y~ ⌋, [1,e], ["Continuous", "PDF"] ⌈
```

```
"l and u", 0, ∞
```

```
"g(x)", ex, "base",  $\frac{1}{\pi \sqrt{x (1-x)}}$ , "ArcSinRV()"
```

```
"f(x)",  $\frac{1}{\pi \sqrt{-\ln(x) (-1 + \ln(x))}}$  x
```

$$S(x), \frac{1}{2} \frac{\pi - 2 \arcsin(-1 + 2 \ln(x))}{\pi}$$

$$h(x), \frac{2}{\sqrt{-\ln(x)} (-1 + \ln(x)) x (\pi - 2 \arcsin(-1 + 2 \ln(x)))}$$

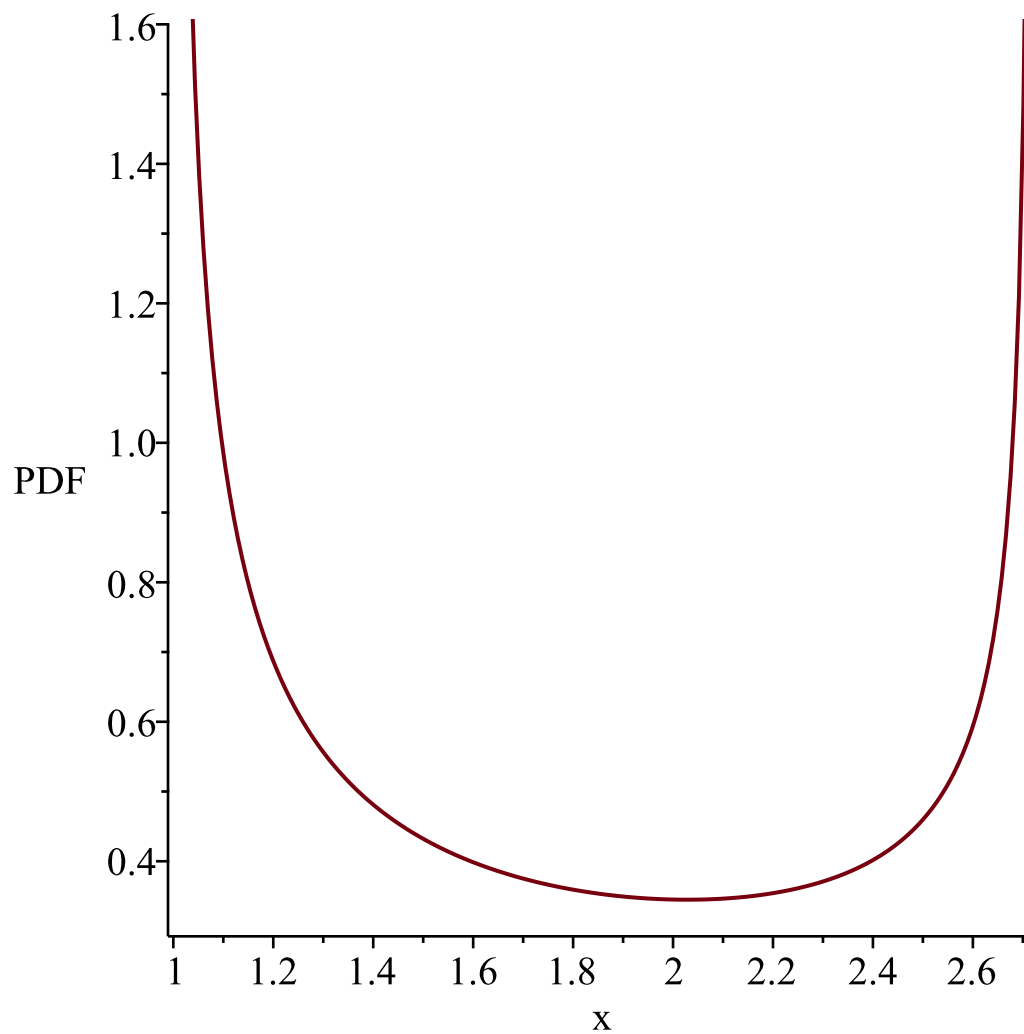
$$\text{"mean and variance", } \frac{\int_1^e \frac{1}{\sqrt{1 - \ln(x)} \sqrt{\ln(x)}} dx}{\pi},$$

$$\frac{\left(\int_1^e \frac{x}{\sqrt{1 - \ln(x)} \sqrt{\ln(x)}} dx \right) \pi - \left(\int_1^e \frac{1}{\sqrt{1 - \ln(x)} \sqrt{\ln(x)}} dx \right)^2}{\pi^2}$$

*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable*
1

Resetting low to RV's minimum support value
*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable,e*

Resetting high to RV's maximum support value

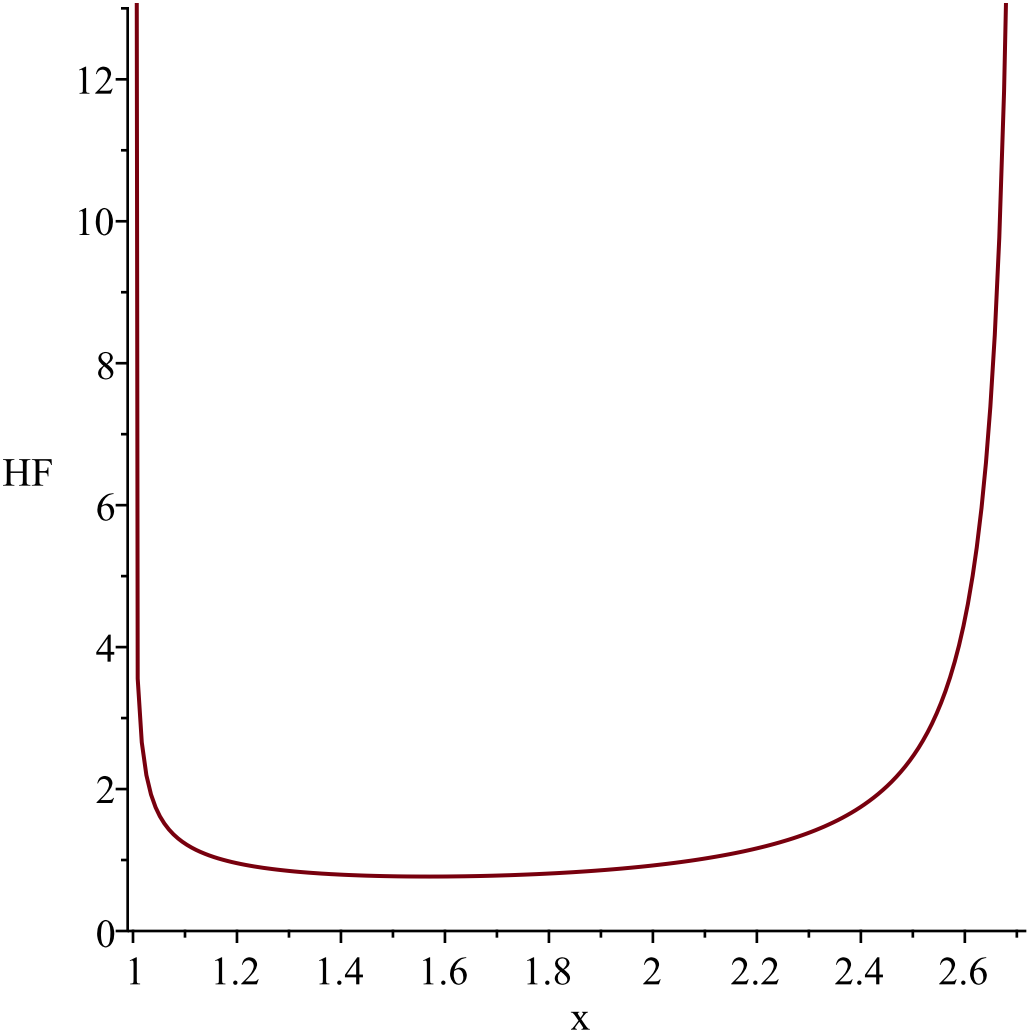


*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable*

1

*Resetting low to RV's minimum support value
WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable,e*

Resetting high to RV's maximum support value



```
{\frac {1}{\pi\,\sqrt {-\ln \left( x \right) \left( -1+\ln \left( x \right) \right) \right) \right) }x}}
```

"i is", 6,

" _____

_____"

```
g := t→ln(t)
l := 0
u := ∞

Temp := ⌊⌊ y~→ e^{\frac{1}{2} y~} / (sqrt(1 - e^{y~}) * pi) ⌋, [-∞, 0], ["Continuous", "PDF"] ⌋

"l and u", 0, ∞

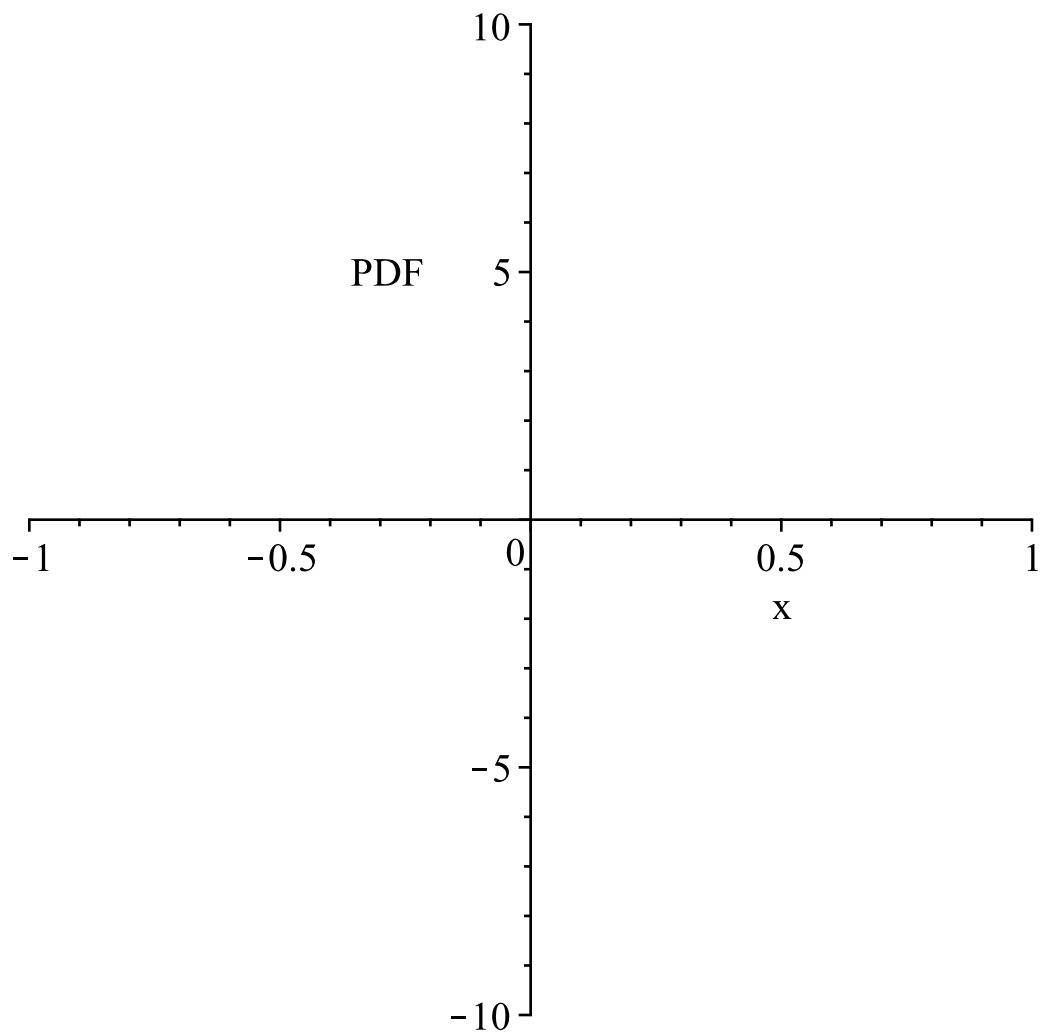
"g(x)", ln(x), "base", 1 / (pi * sqrt(x * (1 - x))), "ArcSinRV()
```

$$\begin{aligned}
 & \text{"f(x)", } \frac{e^{\frac{1}{2}x}}{\sqrt{1-e^x} \pi} \\
 & \text{"S(x)", } \frac{1}{2} \frac{\pi - 2 \arcsin(2 e^x - 1)}{\pi} \\
 & \text{"h(x)", } \frac{2 e^{\frac{1}{2}x}}{\sqrt{1-e^x} (\pi - 2 \arcsin(2 e^x - 1))} \\
 & \text{"mean and variance", } \int_{-\infty}^0 \frac{x e^{\frac{1}{2}x}}{\sqrt{1-e^x} \pi} dx, \int_{-\infty}^0 \frac{x^2 e^{\frac{1}{2}x}}{\sqrt{1-e^x} \pi} dx - \left(\int_{-\infty}^0 \frac{x e^{\frac{1}{2}x}}{\sqrt{1-e^x} \pi} dx \right)^2
 \end{aligned}$$

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 0*

Resetting high to RV's maximum support value

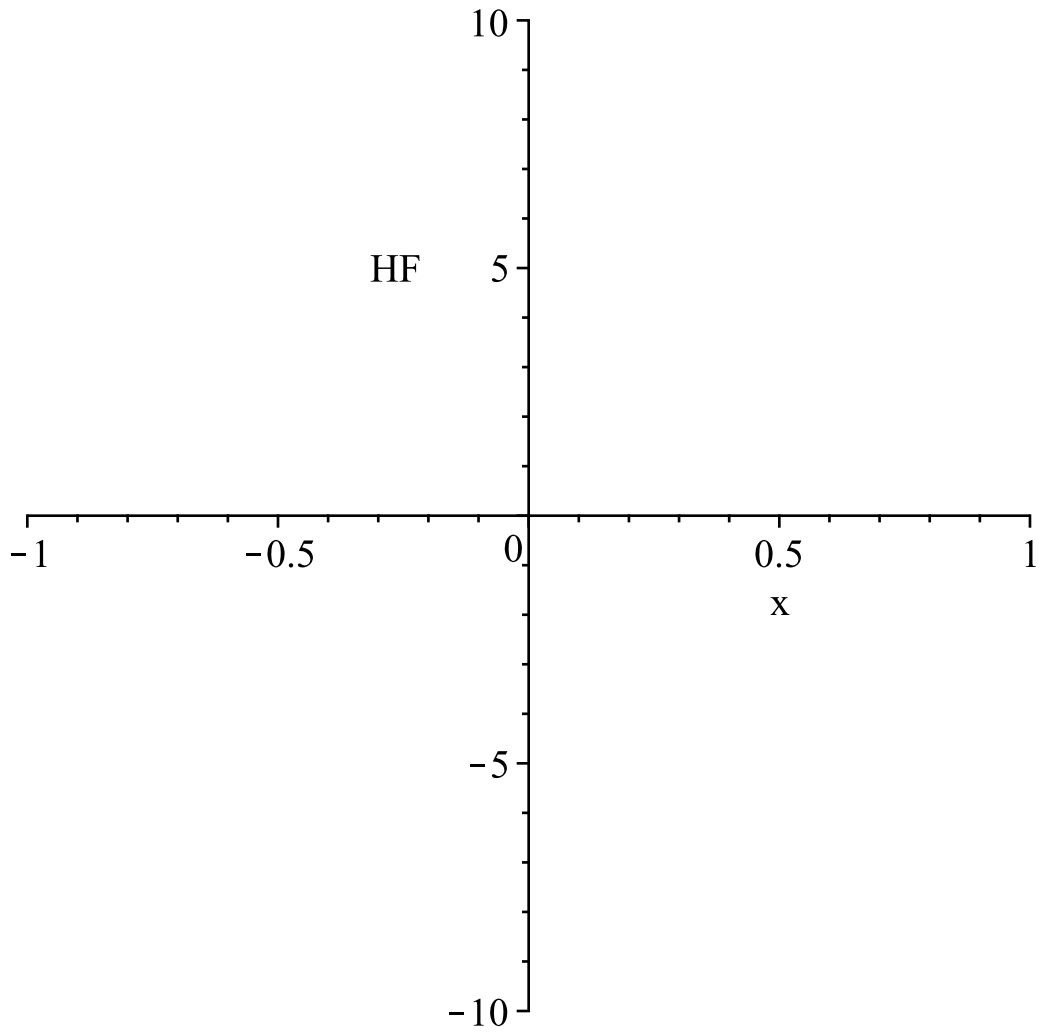
Warning, unable to evaluate the function to numeric values in
the region; see the plotting command's help page to ensure the
calling sequence is correct



*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 0*

Resetting high to RV's maximum support value

Warning, unable to evaluate the function to numeric values in
the region; see the plotting command's help page to ensure the
calling sequence is correct



```
{\frac {{{\rm e}^{x/2}}}{\sqrt {1-{{\rm e}^x}}\pi }}
"i is", 7,
" _____"
"-----"
```

$$g:=t\rightarrow e^{-t}$$

$$l:=0$$

$$u:=\infty$$

$$Temp:=\left[\left[y\rightsquigarrow\frac{1}{\pi\sqrt{-\ln(y\sim)}\left(1+\ln(y\sim)\right)}y\sim\right],[e^{-1},1],["Continuous","PDF"]\right]$$

"l and u", 0, ∞

$$\text{"g(x)", e}^{-x}, \text{"base", }\frac{1}{\pi\sqrt{x\left(1-x\right)}}, \text{"ArcSinRV()}"$$

$$\text{"f(x)", }\frac{1}{\pi\sqrt{-\ln(x)\left(1+\ln(x)\right)}x}$$

$$\text{"S(x)", }\frac{1}{2}\frac{\pi-2\arcsin(1+2\ln(x))}{\pi}$$

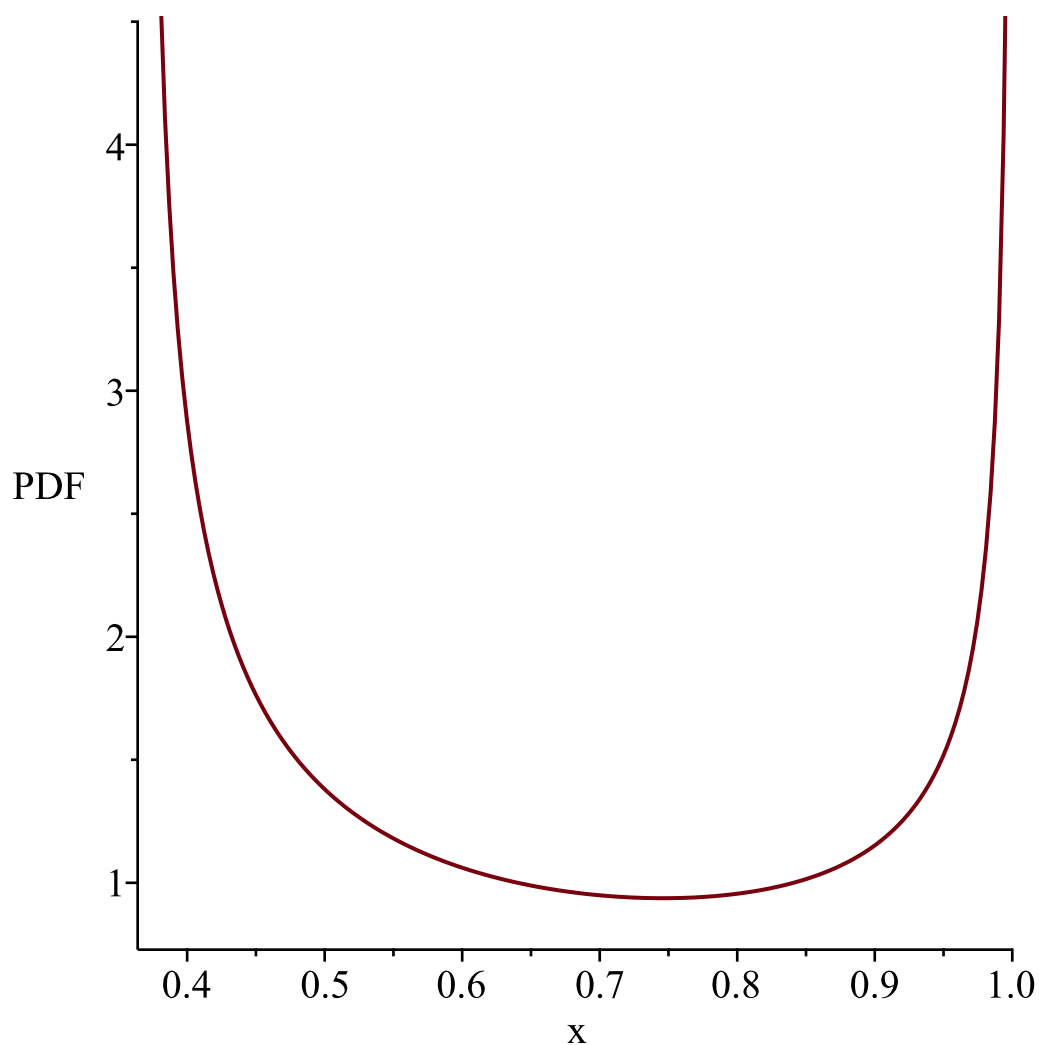
"h(x)",
$$\frac{2}{\sqrt{-\ln(x) (1 + \ln(x))} x (\pi - 2 \arcsin(1 + 2 \ln(x)))}$$

"mean and variance",
$$e^{-\frac{1}{2}} \text{BesselI}\left(0, \frac{1}{2}\right), -e^{-1} \left(\text{BesselI}\left(0, \frac{1}{2}\right)^2 - \text{BesselI}(0, 1) \right)$$

*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable
 e^{-1}*

*Resetting low to RV's minimum support value
WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 1*

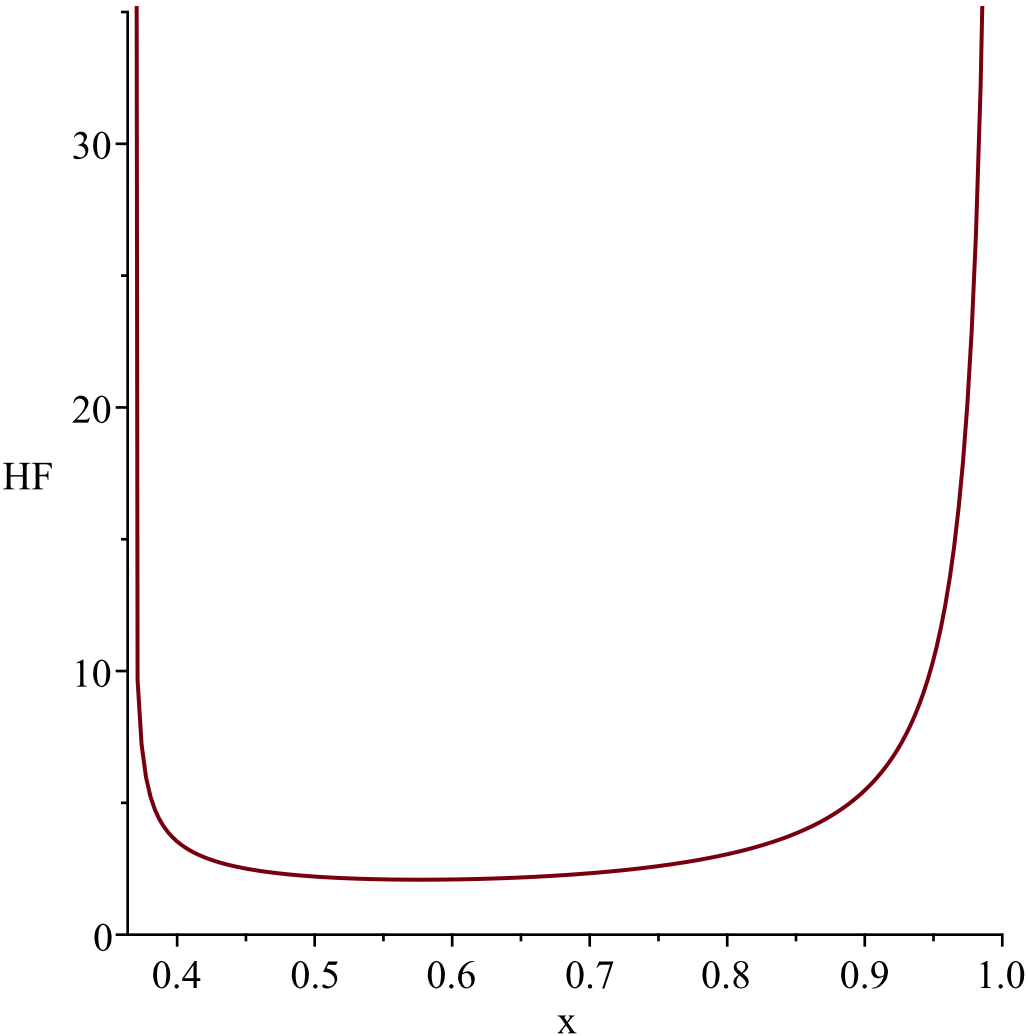
Resetting high to RV's maximum support value



*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable
 e^{-1}*

Resetting low to RV's minimum support value

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, 1
Resetting high to RV's maximum support value*



```
{\frac {1}{\pi\,\sqrt {-\ln \left( x \right) \left( 1+\ln \right.
\left( x
\right) \left. \right) }}x}}
"iis", 8,
" _____"
-----"
```

```
g := t→ -ln(t)
l := 0
u := ∞
```

```
Temp := ⌈⌊ y~→  $\frac{e^{-\frac{1}{2}y\sim}}{\sqrt{1-e^{-y\sim}}\pi}$  ⌋, [0, ∞], ["Continuous", "PDF"] ⌋
"l and u", 0, ∞
```

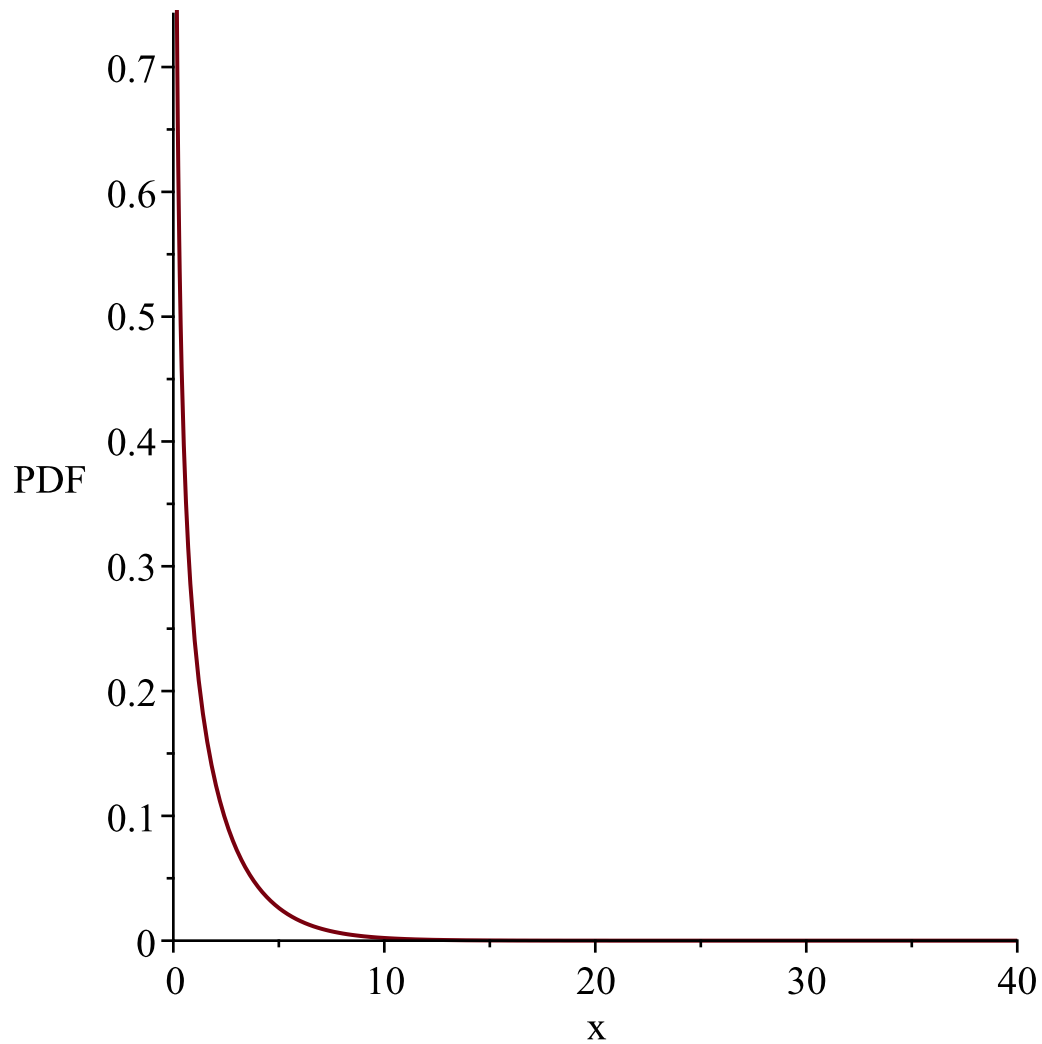
$$\text{"g(x)", } -\ln(x), \text{"base", } \frac{1}{\pi \sqrt{x(1-x)}}, \text{"ArcSinRV()"$$

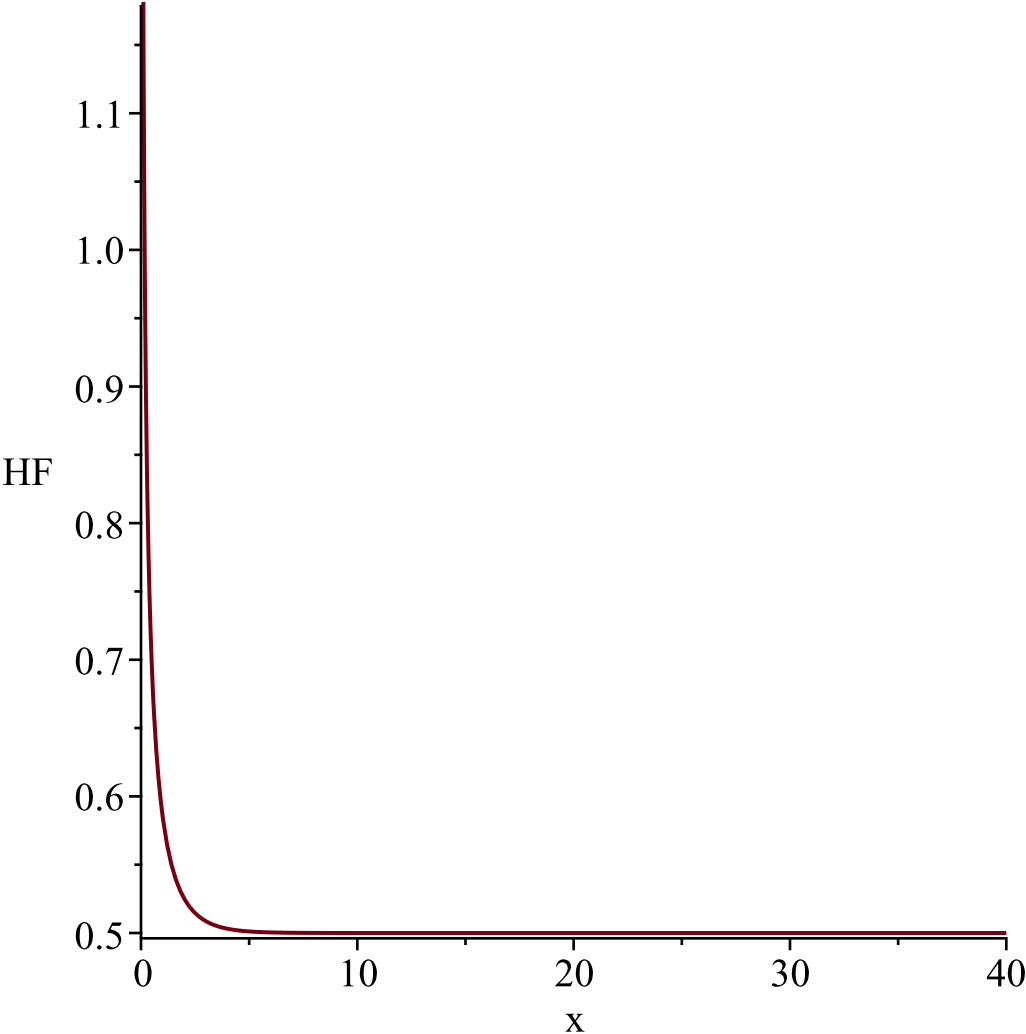
$$\text{"f(x)", } \frac{e^{-\frac{1}{2}x}}{\sqrt{1-e^{-x}} \pi}$$

$$\text{"S(x)", } \frac{\pi - 2 \arctan(\sqrt{-1+e^x})}{\pi}$$

$$\text{"h(x)", } \frac{e^{-\frac{1}{2}x}}{\sqrt{1-e^{-x}} \left(\pi - 2 \arctan(\sqrt{-1+e^x}) \right)}$$

$$\text{"mean and variance", } 2 \ln(2), \frac{1}{3} \pi^2$$





```

{\frac {{{\rm e}^{-x/2}}}{\sqrt {1-{{\rm e}^{-x}}}}\pi }}
"i is", 9,
"
-----"

g := t→ln(t + 1)
l := 0
u := ∞

Temp := ⌈⌊ y~→  $\frac{e^{y~}}{\sqrt{-\left(e^{y~}-1\right)\left(-2+e^{y~}\right)}\pi}$  ⌋, [0, ln(2)], ["Continuous", "PDF"] ⌈

"l and u", 0, ∞

"g(x)", ln(x + 1), "base",  $\frac{1}{\pi \sqrt{x\left(1-x\right)}}$ , "ArcSinRV()"

"f(x)",  $\frac{e^x}{\sqrt{-\left(-1+e^x\right)\left(-2+e^x\right)}\pi}$ 

"S(x)",  $\frac{1}{2}\frac{\pi-2\arcsin\left(-3+2e^x\right)}{\pi}$ 

```

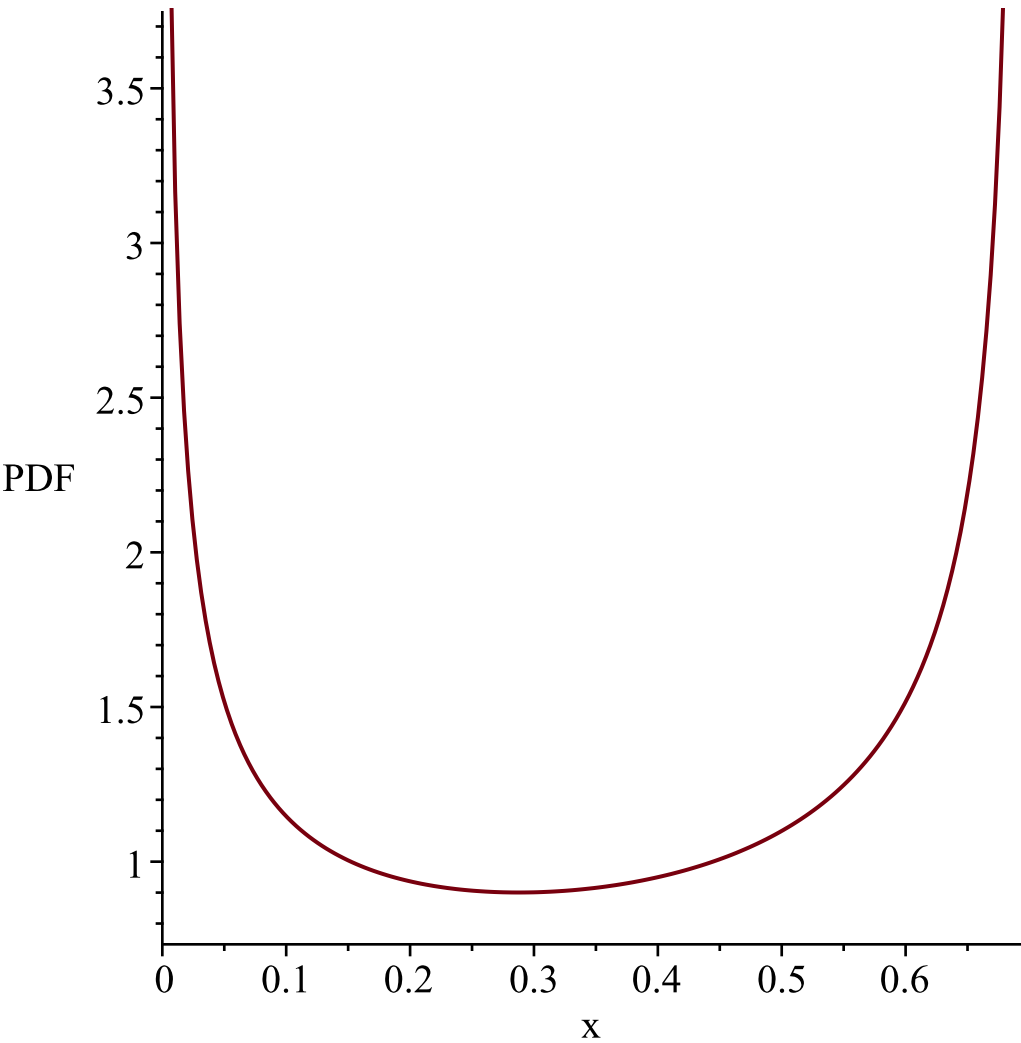
"h(x)",
$$\frac{2 e^x}{\sqrt{-(-1 + e^x) (-2 + e^x)} (\pi - 2 \arcsin(-3 + 2 e^x))}$$

"mean and variance",
$$\frac{\int_0^{\ln(2)} \frac{x e^x}{\sqrt{-1 + e^x} \sqrt{2 - e^x}} dx}{\pi},$$

$$\frac{\left(\int_0^{\ln(2)} \frac{x^2 e^x}{\sqrt{-1 + e^x} \sqrt{2 - e^x}} dx\right) \pi - \left(\int_0^{\ln(2)} \frac{x e^x}{\sqrt{-1 + e^x} \sqrt{2 - e^x}} dx\right)^2}{\pi^2}$$

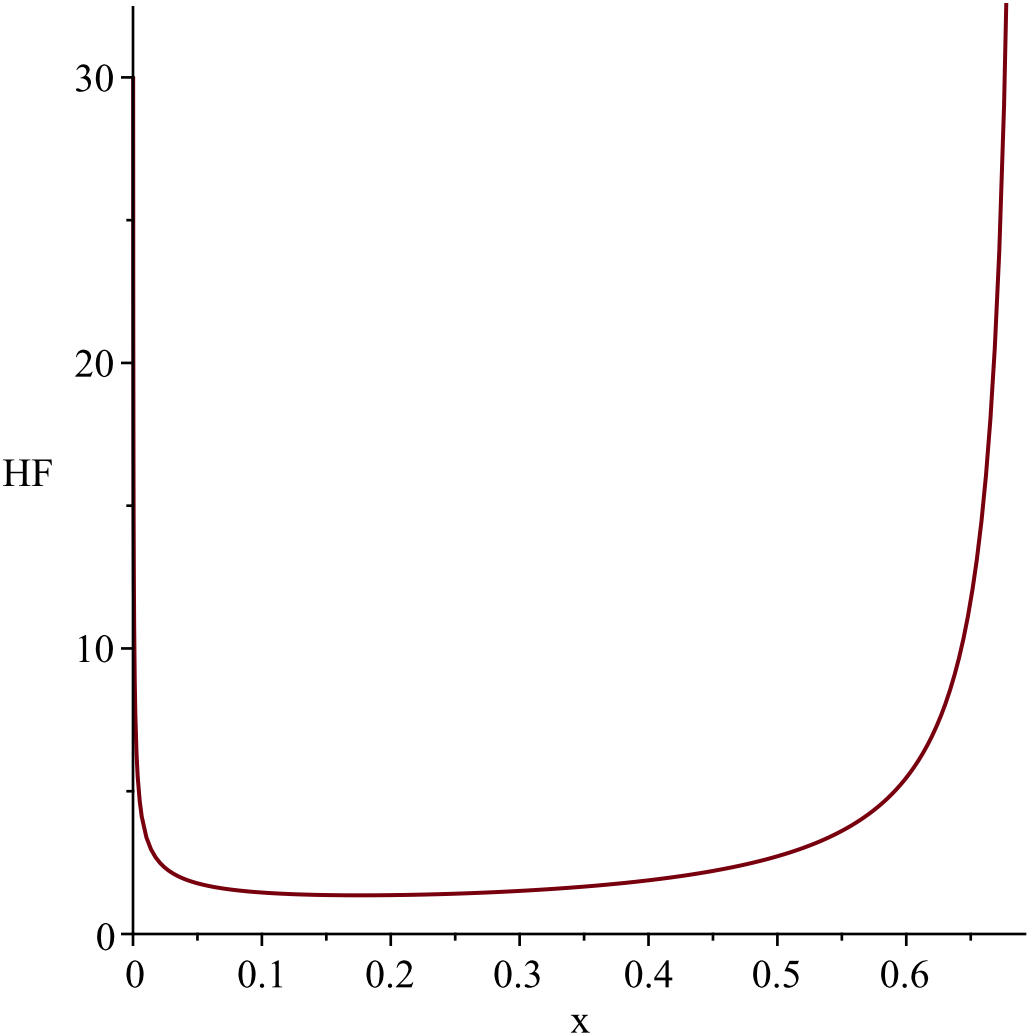
*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, ln(2)*

Resetting high to RV's maximum support value



WARNING(PlotDist): High value provided by user, 40

is greater than maximum support value of the random
variable, $\ln(2)$
Resetting high to RV's maximum support value



```
\frac {{{\rm e}^{\mathrm{x}}}}{\sqrt {- \left( -1+{{\rm e}^{\mathrm{x}}} \right) \left( -2+{{\rm e}^{\mathrm{x}}} \right) } \pi}}
```

```
"i is", 10,
```

```
" -----
-----"
```

$$g:=t\rightarrow \frac{1}{\ln(t+2)}$$

$$l:=0$$

$$u:=\infty$$

$$Temp:=\left[\left[y_{\sim}\rightarrow \frac{e^{\frac{1}{y_{\sim}}}}{\sqrt{-\left(e^{\frac{1}{y_{\sim}}}-2\right)\left(-3+e^{\frac{1}{y_{\sim}}}\right)}\pi y_{\sim}^2}\right],\left[\frac{1}{\ln(3)},\frac{1}{\ln(2)}\right],["Continuous",$$

"PDF"]

"l and u", 0, ∞

"g(x)", $\frac{1}{\ln(x+2)}$, "base", $\frac{1}{\pi \sqrt{x(1-x)}}$, "ArcSinRV()"

"f(x)", $\frac{e^{\frac{1}{x}}}{\sqrt{-\left(e^{\frac{1}{x}}-2\right)\left(-3+e^{\frac{1}{x}}\right)} \pi x^2}$

"S(x)", $\frac{1}{2} \frac{\pi + 2 \arcsin\left(-5 + 2 e^{\frac{1}{x}}\right)}{\pi}$

"h(x)", $\frac{2 e^{\frac{1}{x}}}{\sqrt{-\left(e^{\frac{1}{x}}-2\right)\left(-3+e^{\frac{1}{x}}\right)} x^2 \left(\pi + 2 \arcsin\left(-5 + 2 e^{\frac{1}{x}}\right)\right)}$

$\int_{\frac{1}{\ln(3)}}^{\frac{1}{\ln(2)}} \frac{e^{\frac{1}{x}}}{x \sqrt{e^{\frac{1}{x}}-2} \sqrt{3-e^{\frac{1}{x}}}} dx$

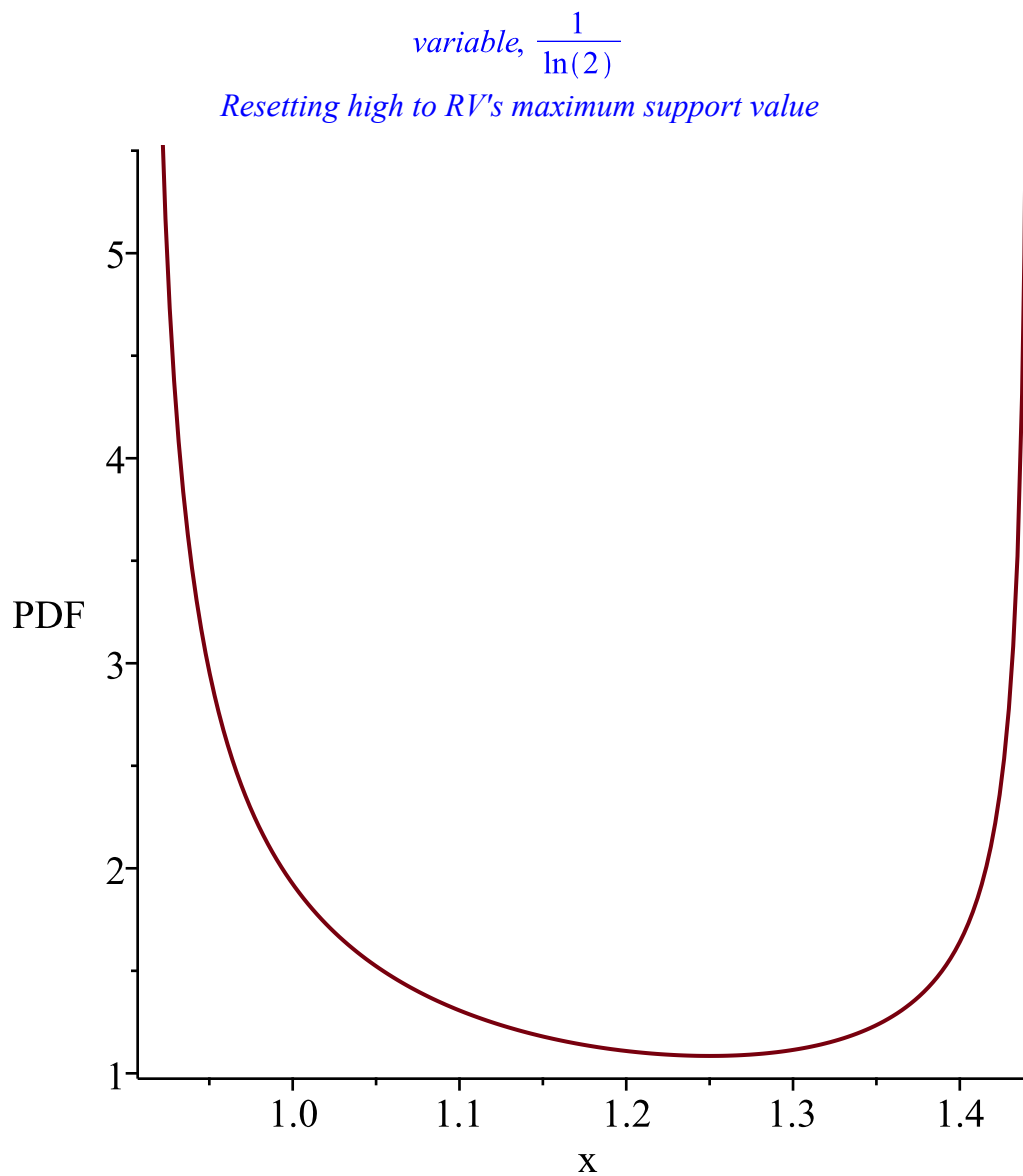
"mean and variance", $\frac{\pi}{\pi}$,

$$\frac{\left(\int_{\frac{1}{\ln(3)}}^{\frac{1}{\ln(2)}} \frac{e^{\frac{1}{x}}}{x \sqrt{e^{\frac{1}{x}}-2} \sqrt{3-e^{\frac{1}{x}}}} dx\right)^2 - \left(\int_{\frac{1}{\ln(3)}}^{\frac{1}{\ln(2)}} \frac{e^{\frac{1}{x}}}{\sqrt{e^{\frac{1}{x}}-2} \sqrt{3-e^{\frac{1}{x}}}} dx\right) \pi}{\pi^2}$$

WARNING(PlotDist): Low value provided by user, 0 is less than minimum support value of random variable

$$\frac{1}{\ln(3)}$$

*Resetting low to RV's minimum support value
WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random*



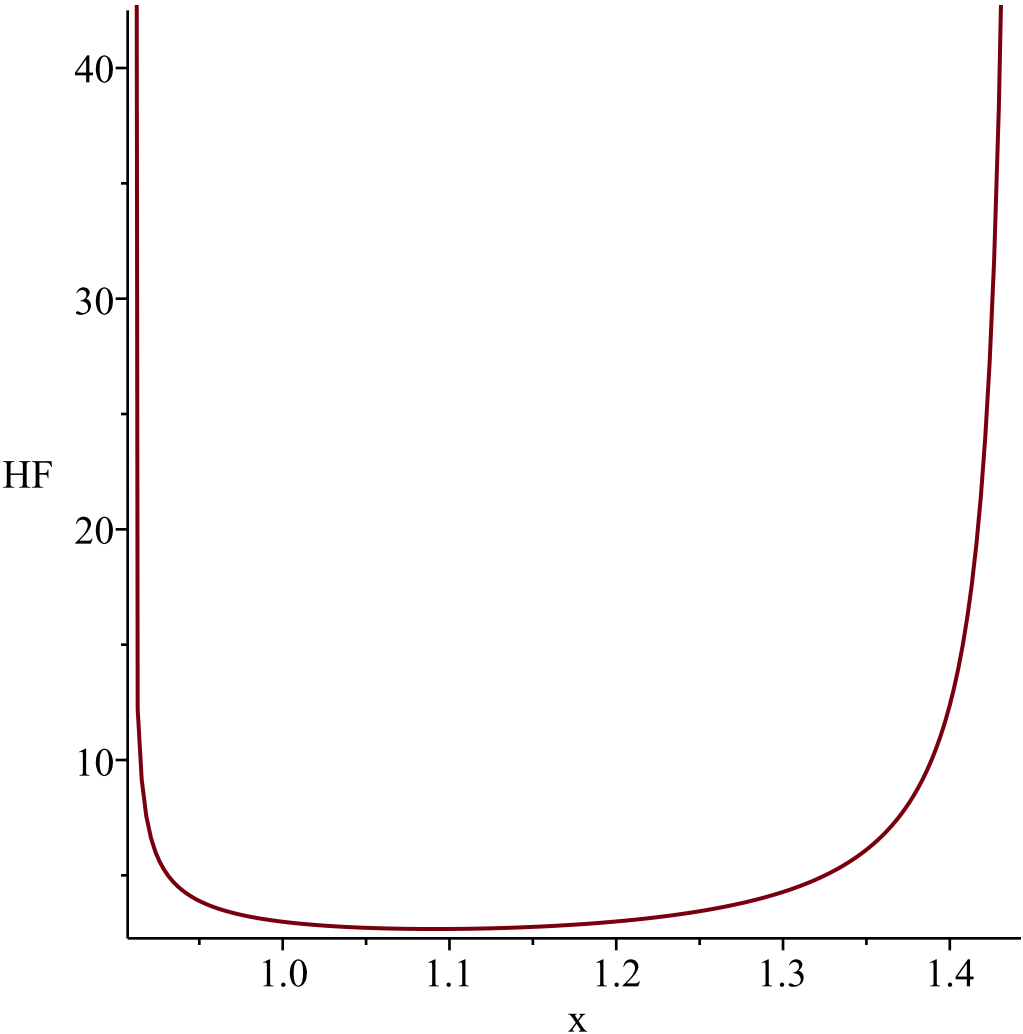
*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable*

$$\frac{1}{\ln(3)}$$

Resetting low to RV's minimum support value
*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random*

variable, $\frac{1}{\ln(2)}$

Resetting high to RV's maximum support value



```
{\frac {{{\rm e}^{{x}^{-1}}}}{\sqrt {- \left( {{{\rm e}^{{x}^{-1}}}} \right)}^{-2}
\right) \left( -3+{{\rm e}^{{x}^{-1}}} \right) }\pi\!,{x}^2}}
"i is",11,
"
-----"
-----"
```

```
g := t→tanh(t)
l := 0
u := ∞
Temp := ⌈⌊y~→ - 1 / (π √ -arctanh(y~) (-1 + arctanh(y~)) (y~^2 - 1) ⌋, [0, tanh(1) ],
["Continuous", "PDF"] ⌋
"l and u", 0, ∞
"g(x)", tanh(x), "base", 1 / (π √ x (1 - x) ), "ArcSinRV()"
```

$$\text{"f(x)", } - \frac{1}{\pi \sqrt{-\operatorname{arctanh}(x) \left(-1 + \operatorname{arctanh}(x)\right)} \left(x^2 - 1\right)}$$

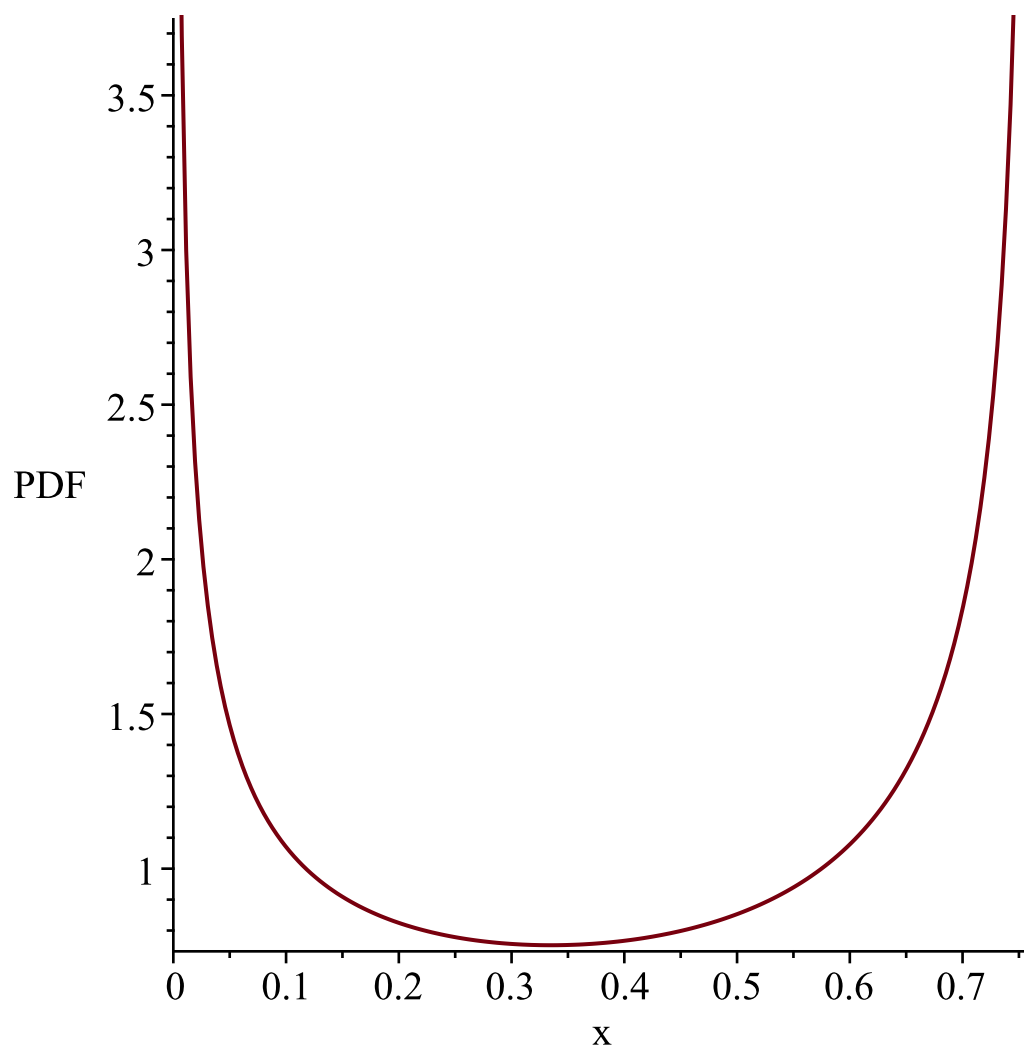
$$\text{"S(x)", } \frac{\pi + \int_0^x \frac{1}{\sqrt{-\operatorname{arctanh}(t) \left(-1 + \operatorname{arctanh}(t)\right)} \left(t^2 - 1\right)} dt}{\pi}$$

$$\text{"h(x)", } -1 \left/ \left(\sqrt{-\operatorname{arctanh}(x) \left(-1 + \operatorname{arctanh}(x)\right)} \left(x^2 - 1\right) \left(\pi + \int_0^x \frac{1}{\sqrt{-\operatorname{arctanh}(t) \left(-1 + \operatorname{arctanh}(t)\right)} \left(t^2 - 1\right)} dt \right) \right) \right)$$

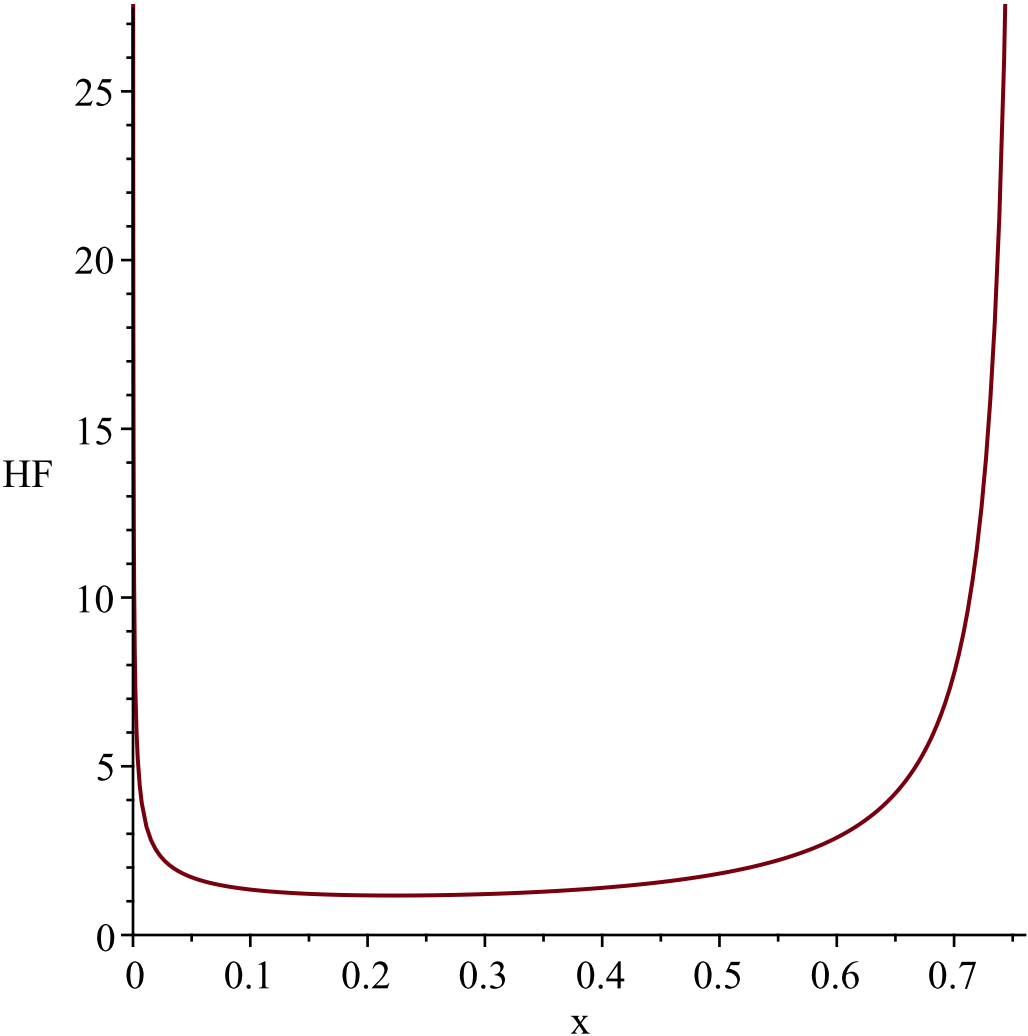
$$\text{"mean and variance", } - \frac{\int_0^{\tanh(1)} \frac{x}{\sqrt{\operatorname{arctanh}(x)} \sqrt{1 - \operatorname{arctanh}(x)} \left(x^2 - 1\right)} dx}{\pi}, - \frac{1}{\pi^2} \left(\left(\int_0^{\tanh(1)} \frac{x^2}{\sqrt{\operatorname{arctanh}(x)} \sqrt{1 - \operatorname{arctanh}(x)} \left(x^2 - 1\right)} dx \right) \pi + \left(\int_0^{\tanh(1)} \frac{x}{\sqrt{\operatorname{arctanh}(x)} \sqrt{1 - \operatorname{arctanh}(x)} \left(x^2 - 1\right)} dx \right)^2 \right)$$

WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random variable, tanh(1)

Resetting high to RV's maximum support value



*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, $\tanh(1)$
Resetting high to RV's maximum support value*



$$-\frac{1}{\pi\sqrt{-\operatorname{arctanh}\left(x\right)\left(-1+\operatorname{arctanh}\left(x\right)\right)}}\sqrt{x^2-1}$$

"i is", 12,
"-----"
"-----"

$$\begin{aligned} g &:= t \rightarrow \sinh(t) \\ l &:= 0 \\ u &:= \infty \end{aligned}$$

$$Temp := \left[\left[y \rightarrow \frac{1}{\pi \sqrt{-\operatorname{arcsinh}(y) \left(-1 + \operatorname{arcsinh}(y)\right)} \sqrt{y^2 + 1}} \right], [0, \sinh(1)], \right. \\ \left. ["Continuous", "PDF"] \right]$$

$$\begin{aligned} & \text{"l and u", } 0, \infty \\ & \text{"g(x)", } \sinh(x), \text{"base", } \frac{1}{\pi \sqrt{x \left(1 - x\right)}}, \text{"ArcSinRV()"} \end{aligned}$$

$$\text{"f(x)", } \frac{1}{\pi \sqrt{-\operatorname{arcsinh}(x) \left(-1 + \operatorname{arcsinh}(x) \right)} \sqrt{x^2 + 1}}$$

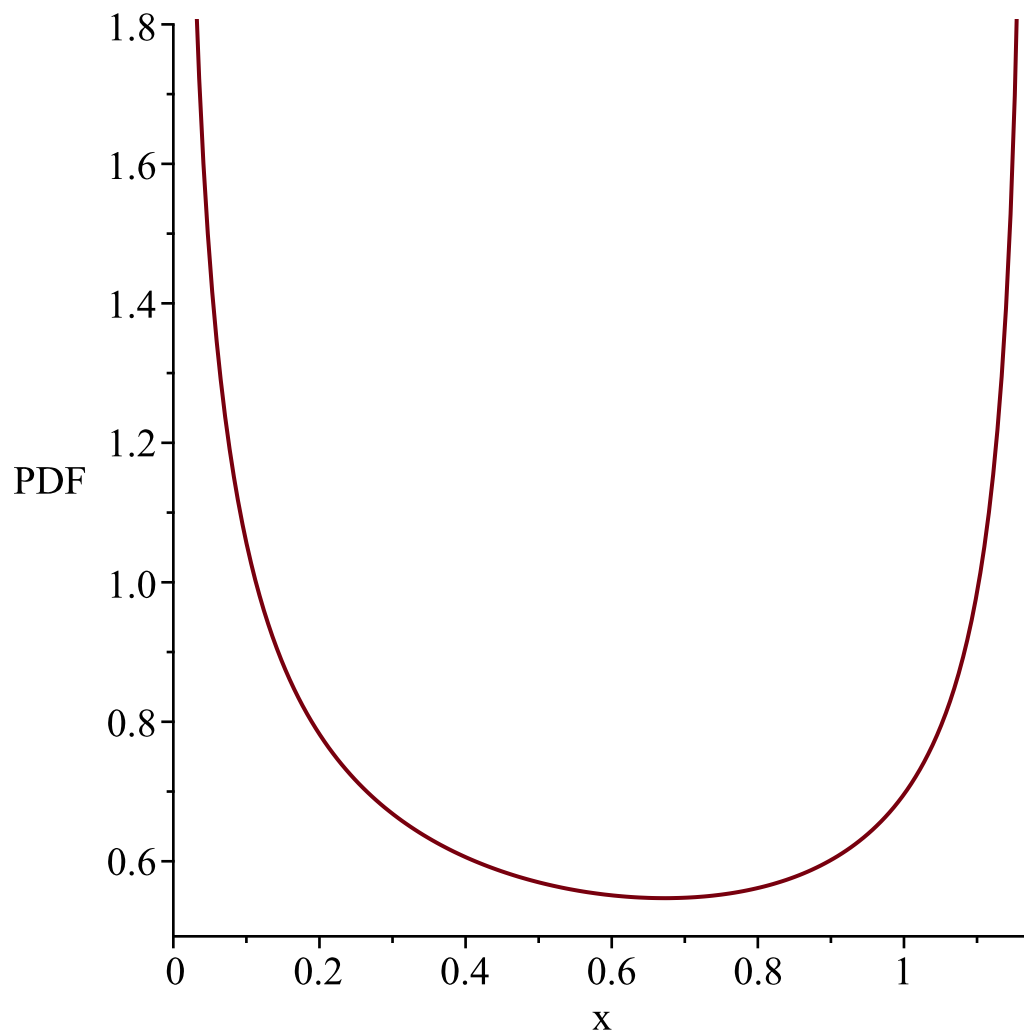
$$\text{"S(x)", } \frac{1}{2} \frac{\pi + 2 \arcsin\left(1 + 2 \ln\left(-x + \sqrt{x^2 + 1}\right)\right)}{\pi}$$

"h(x)",

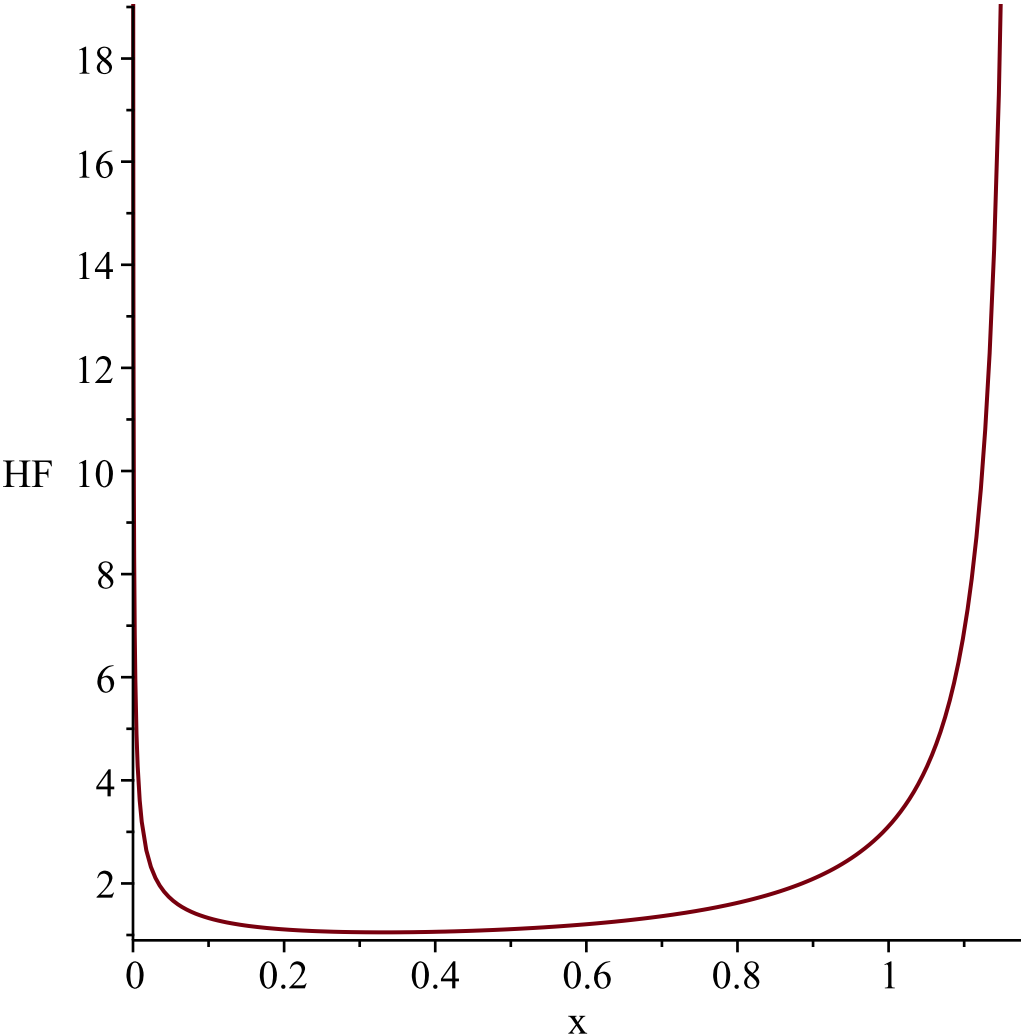
$$\frac{2}{\sqrt{-\operatorname{arcsinh}(x) \left(-1 + \operatorname{arcsinh}(x) \right)} \sqrt{x^2 + 1} \left(\pi + 2 \arcsin\left(1 + 2 \ln\left(-x + \sqrt{x^2 + 1}\right)\right) \right)}$$

"mean and variance",
$$\frac{\int_0^{\sinh(1)} \frac{x}{\sqrt{\operatorname{arcsinh}(x)} \sqrt{1 - \operatorname{arcsinh}(x)} \sqrt{x^2 + 1}} dx}{\pi}, \frac{1}{\pi^2} \left(\left(\int_0^{\sinh(1)} \frac{x^2}{\sqrt{\operatorname{arcsinh}(x)} \sqrt{1 - \operatorname{arcsinh}(x)} \sqrt{x^2 + 1}} dx \right) \pi \right. \\ \left. - \left(\int_0^{\sinh(1)} \frac{x}{\sqrt{\operatorname{arcsinh}(x)} \sqrt{1 - \operatorname{arcsinh}(x)} \sqrt{x^2 + 1}} dx \right)^2 \right)$$

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, sinh(1)
Resetting high to RV's maximum support value*



*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, $\sinh(1)$
Resetting high to RV's maximum support value*



$$\frac{1}{\pi \sqrt{-\operatorname{arcsinh}(x) \left(-1 + \operatorname{arcsinh}(x)\right)}} \sqrt{x^2 + 1}$$

"i is", 13,
"-----"
"-----"

$$g := t \rightarrow \operatorname{arcsinh}(t)$$

$$l := 0$$

$$u := \infty$$

$$Temp := \left[\left[y \rightarrow \frac{\cosh(y)}{\sqrt{-\sinh(y) \left(-1 + \sinh(y)\right)}} \pi \right], [0, -\ln(\sqrt{2} - 1)], ["Continuous", "PDF"] \right]$$

$$l \text{ and } u, 0, \infty$$

$$g(x), \operatorname{arcsinh}(x), \text{"base"}, \frac{1}{\pi \sqrt{x \left(1 - x\right)}}, \text{"ArcSinRV()}"$$

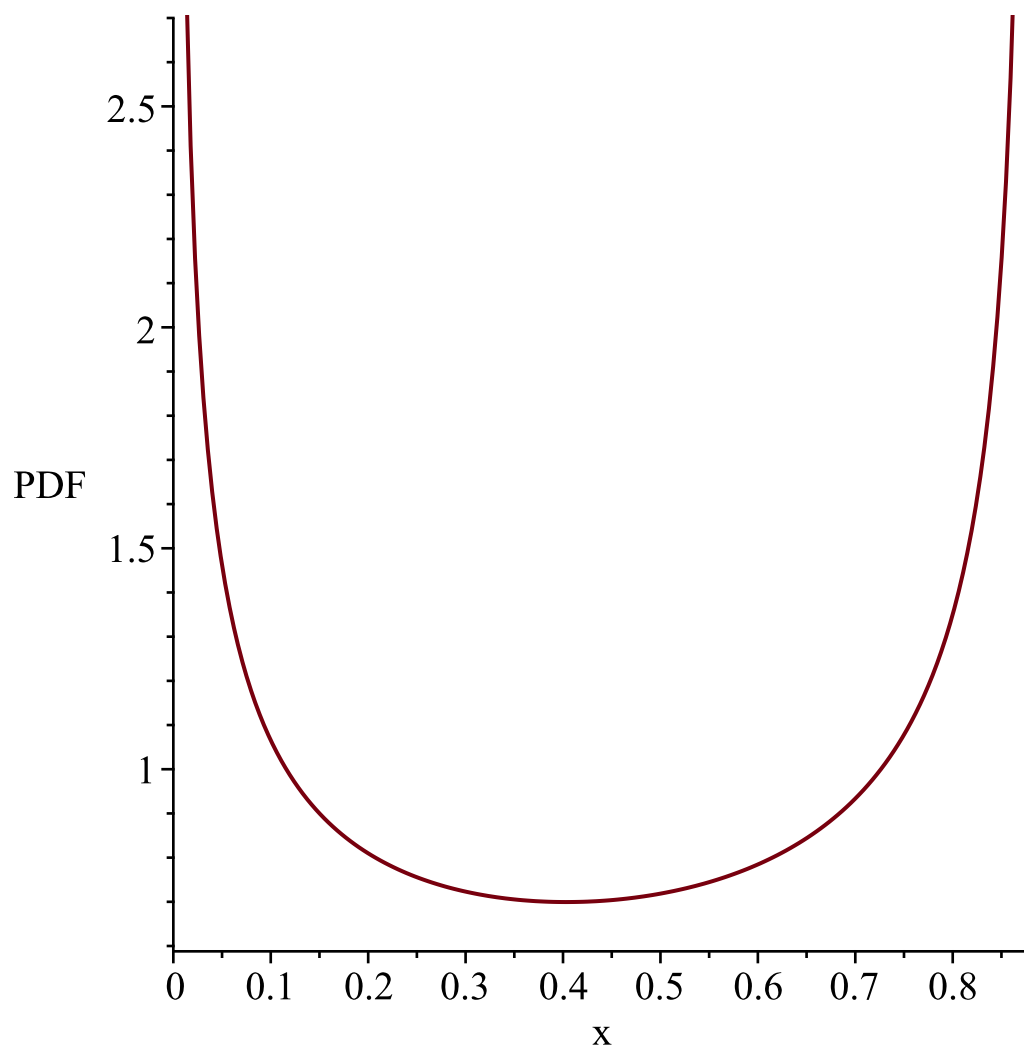
$$f(x), \frac{\cosh(x)}{\sqrt{-\sinh(x) \left(-1 + \sinh(x)\right)}} \pi$$

$$\text{"S(x)", } \frac{1}{2} \frac{\pi - 2 \arcsin(e^x - 1 - e^{-x})}{\pi}$$

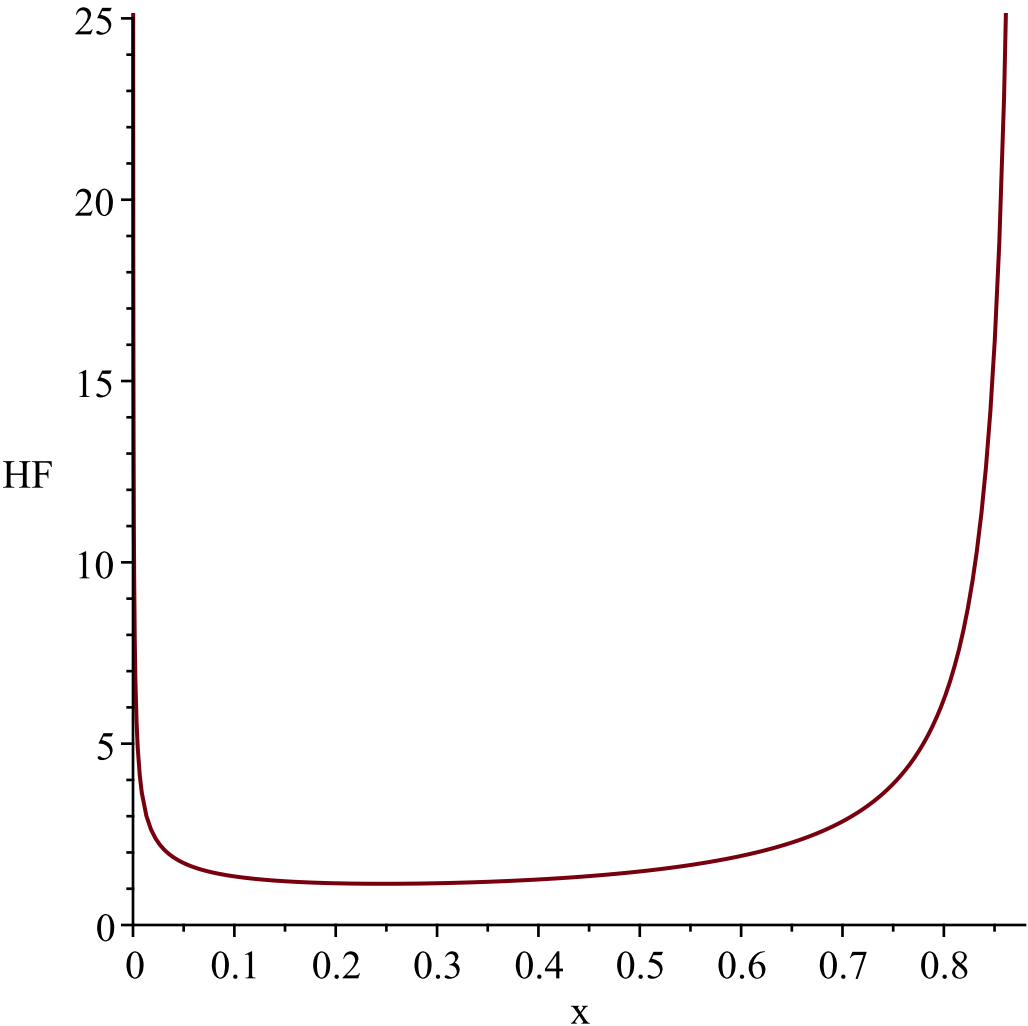
$$\text{"h(x)", } \frac{2 \cosh(x)}{\sqrt{-\sinh(x) (-1 + \sinh(x))} (\pi - 2 \arcsin(e^x - 1 - e^{-x}))}$$

$$\text{"mean and variance", } \frac{\int_0^{-\ln(\sqrt{2}-1)} \frac{x \cosh(x)}{\sqrt{\sinh(x)} \sqrt{1 - \sinh(x)}} dx}{\pi}, \frac{1}{\pi^2} \left(\left(\int_0^{-\ln(\sqrt{2}-1)} \frac{x^2 \cosh(x)}{\sqrt{\sinh(x)} \sqrt{1 - \sinh(x)}} dx \right) \pi - \left(\int_0^{-\ln(\sqrt{2}-1)} \frac{x \cosh(x)}{\sqrt{\sinh(x)} \sqrt{1 - \sinh(x)}} dx \right)^2 \right)$$

*WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random variable, $-\ln(\sqrt{2}-1)$
Resetting high to RV's maximum support value*



*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random
variable, $-\ln(\sqrt{2} - 1)$
Resetting high to RV's maximum support value*



$$\frac{\cosh \left(x \right) \sqrt{-\sinh \left(x \right) \left(-1+\sinh \left(x \right) \right) \pi }}{\left(-1+\sinh \left(x \right) \right) \pi }$$

"i is", 14,
 "-----"
 "-----"

$$g:=t\rightarrow \operatorname{csch}(t+1)$$

$$l:=0$$

$$u:=\infty$$

$$Temp:=\left[\left[y\rightsquigarrow\frac{1}{\sqrt{-\left(-1+\operatorname{arccsch}(y\sim)\right)\left(-2+\operatorname{arccsch}(y\sim)\right)}\sqrt{y\sim^2+1}\pi|y\sim|}\right],\right.\\
\left.\left[\frac{2}{-e^{-2}+e^2},\frac{2}{e-e^{-1}}\right],["Continuous","PDF"]\right]$$

$$\text{"l and u", }0,\infty$$

$$\text{"g(x)", }\operatorname{csch}(x+1),\text{"base", }\frac{1}{\pi\sqrt{x\left(1-x\right)}},\text{"ArcSinRV()}"$$

$$\text{"f(x)", } \frac{1}{\sqrt{-(-1 + \operatorname{arcsch}(x))(-2 + \operatorname{arcsch}(x))} \sqrt{x^2 + 1} \pi |x|}$$

$$\text{"S(x)", } \frac{\pi - \left(\int_{\frac{2e^2}{e^4 - 1}}^x \frac{1}{\sqrt{-(-1 + \operatorname{arcsch}(t))(-2 + \operatorname{arcsch}(t))} \sqrt{t^2 + 1} |t|} dt \right)}{\pi}$$

$$\text{"h(x)", } -1 \left/ \left(\sqrt{-(-1 + \operatorname{arcsch}(x))(-2 + \operatorname{arcsch}(x))} \sqrt{x^2 + 1} |x| \left(-\pi + \int_{\frac{2e^2}{e^4 - 1}}^x \frac{1}{\sqrt{-(-1 + \operatorname{arcsch}(t))(-2 + \operatorname{arcsch}(t))} \sqrt{t^2 + 1} |t|} dt \right) \right) \right.$$

$$\text{"mean and variance", } \frac{\int_{\frac{2e^2}{e^4 - 1}}^{\frac{2e}{e^2 - 1}} \frac{1}{\sqrt{-(-1 + \operatorname{arcsch}(x))(-2 + \operatorname{arcsch}(x))} \sqrt{x^2 + 1}} dx}{\pi},$$

$$\frac{1}{\pi^2} \left(\left(\int_{\frac{2e^2}{e^4 - 1}}^{\frac{2e}{e^2 - 1}} \frac{x}{\sqrt{-(-1 + \operatorname{arcsch}(x))(-2 + \operatorname{arcsch}(x))} \sqrt{x^2 + 1}} dx \right) \pi - \left(\int_{\frac{2e^2}{e^4 - 1}}^{\frac{2e}{e^2 - 1}} \frac{1}{\sqrt{-(-1 + \operatorname{arcsch}(x))(-2 + \operatorname{arcsch}(x))} \sqrt{x^2 + 1}} dx \right)^2 \right)$$

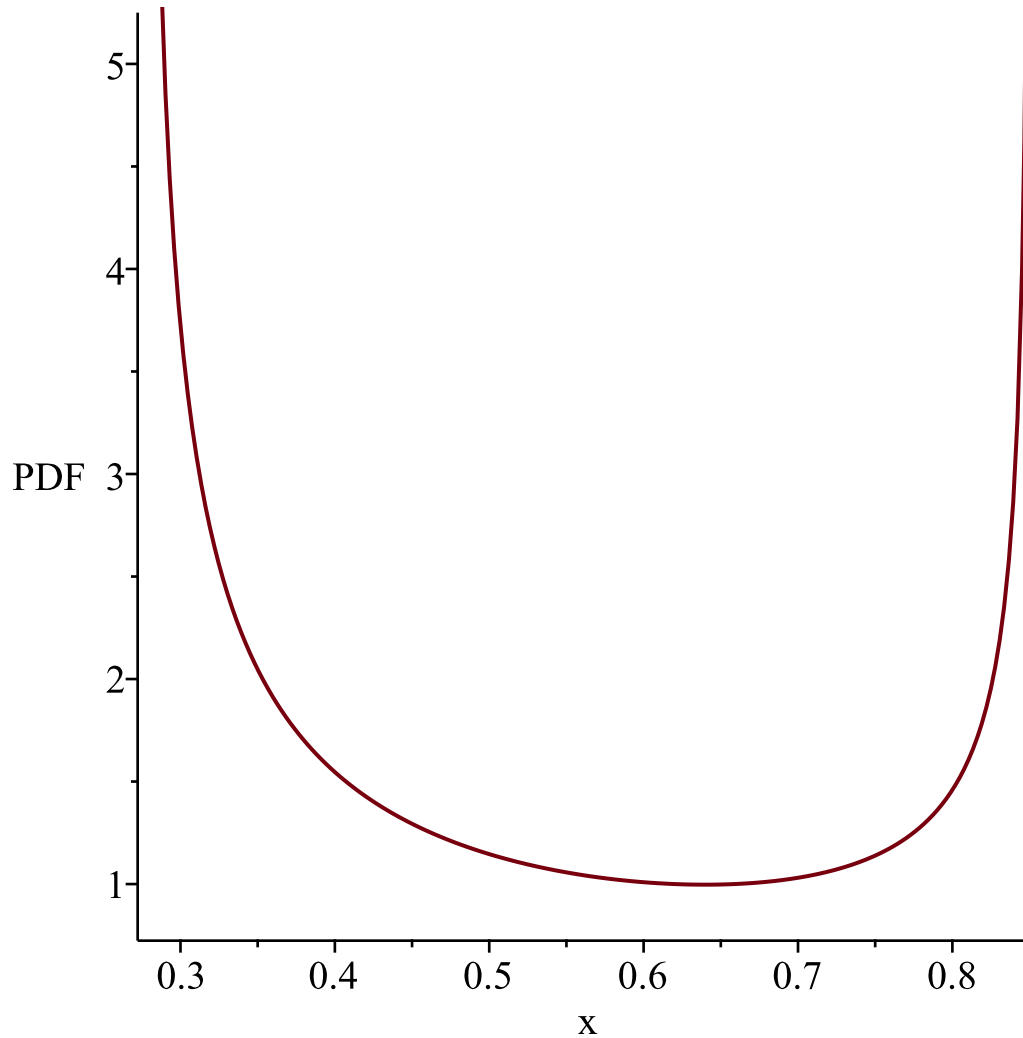
WARNING(PlotDist): Low value provided by user, 0 is less than minimum support value of random variable

$$\frac{2}{-e^{-2} + e^2}$$

Resetting low to RV's minimum support value
WARNING(PlotDist): High value provided by user, 40 is greater than maximum support value of the random

$$\text{variable, } \frac{2}{e - e^{-1}}$$

Resetting high to RV's maximum support value



*WARNING(PlotDist): Low value provided by user, 0
is less than minimum support value of random variable*

$$\frac{2}{-e^{-2} + e^2}$$

Resetting low to RV's minimum support value

*WARNING(PlotDist): High value provided by user, 40
is greater than maximum support value of the random*

$$\text{variable, } \frac{2}{e - e^{-1}}$$

Resetting high to RV's maximum support value

Error, (in property/LinearProp/+) too many levels of recursion

[>

