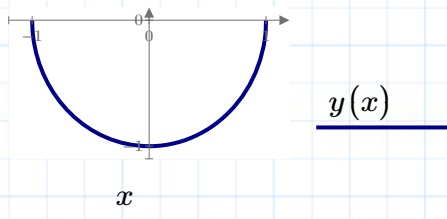


Werner\_Eの投稿より

$(1 + (dy/dx)^2)^{0.5}$

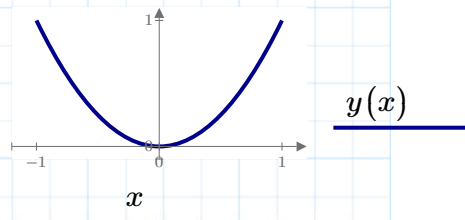
$y(x) := \sqrt{x-1} \cdot \sqrt{x+1} \cdot 1i$        $x^2 + y^2 = 1 \xrightarrow{\text{solve, } y} \left[ \begin{array}{l} \sqrt{x-1} \cdot \sqrt{x+1} \cdot 1i \\ -(\sqrt{x-1} \cdot \sqrt{x+1} \cdot 1i) \end{array} \right]$

$\int_{-1}^1 \left( 1 + \left( \frac{d}{dx} y(x) \right)^2 \right)^{\frac{1}{2}} dx \xrightarrow{\text{simplify}} \pi$



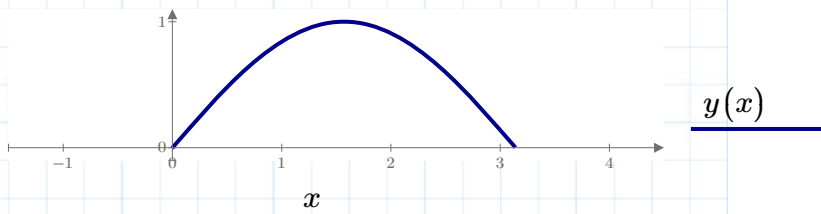
$y(x) := x^2$

$\int_{-1}^1 \left( 1 + \left( \frac{d}{dx} y(x) \right)^2 \right)^{\frac{1}{2}} dx \xrightarrow{\text{simplify}} \frac{\ln(\sqrt{5}+2)}{2} + \sqrt{5}$

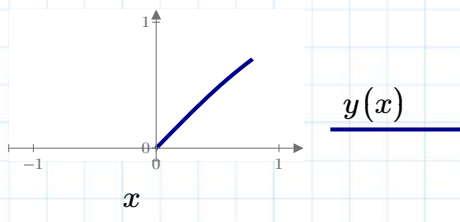


$y(x) := \sin(x)$

$\int_0^{\pi} \left( 1 + \left( \frac{d}{dx} y(x) \right)^2 \right)^{\frac{1}{2}} dx = 3.82$



$\int_0^{\frac{\pi}{4}} \left( 1 + \left( \frac{d}{dx} y(x) \right)^2 \right)^{\frac{1}{2}} dx = 1.058$



$y(x) := \sqrt{3} \cdot x$

$\int_0^1 \left( 1 + \left( \frac{d}{dx} y(x) \right)^2 \right)^{\frac{1}{2}} dx = 2$

