Horizontal Compression and Stretching

Name _____

Date _____ Period _____

Given Function $y = f(x)$, then the equation...

$$y = f(b \cdot x)$$

can cause a horizontal compression of $f(x)$ or a horizontal stretch of $f(x)$.

Parent Function $y = f(x)$

After Transformations $y = f(b \cdot x)$

Square Function

$y = x^2$

Absolute Value Function

$y = |x|$

Logarithmic Function

$y = \log x$

Cube Function

$y = x^3$

Square Root Function

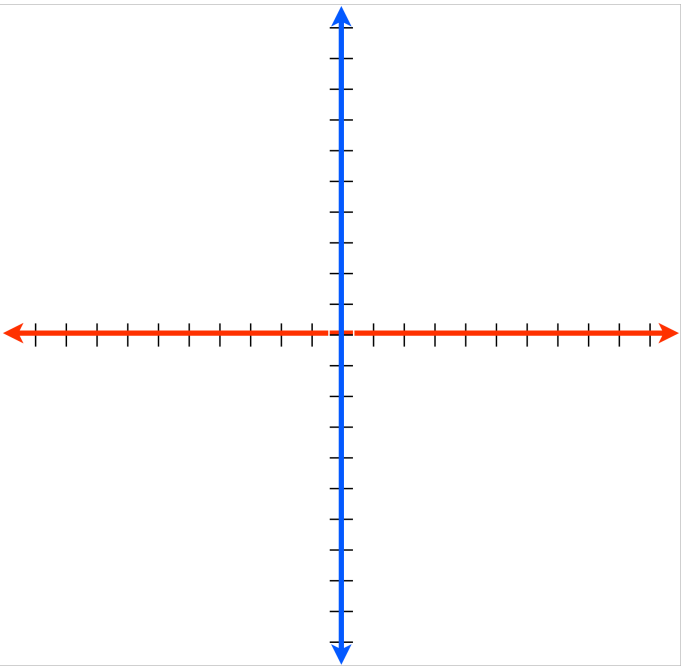
$y = \sqrt{x}$

Square Function

$y = x^2$

$y = (2x)^2$

$y = (\frac{1}{2}x)^2$

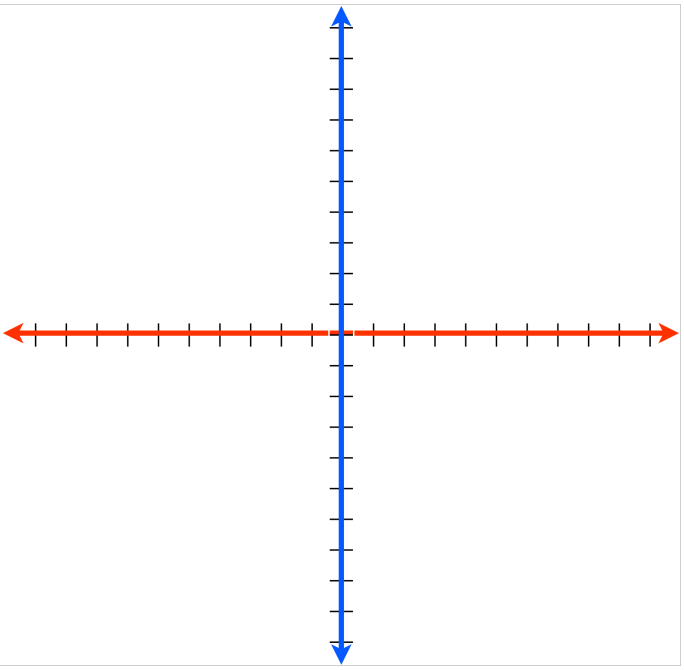


Square Root Function

$y = \sqrt{x}$

$y = \sqrt{3x}$

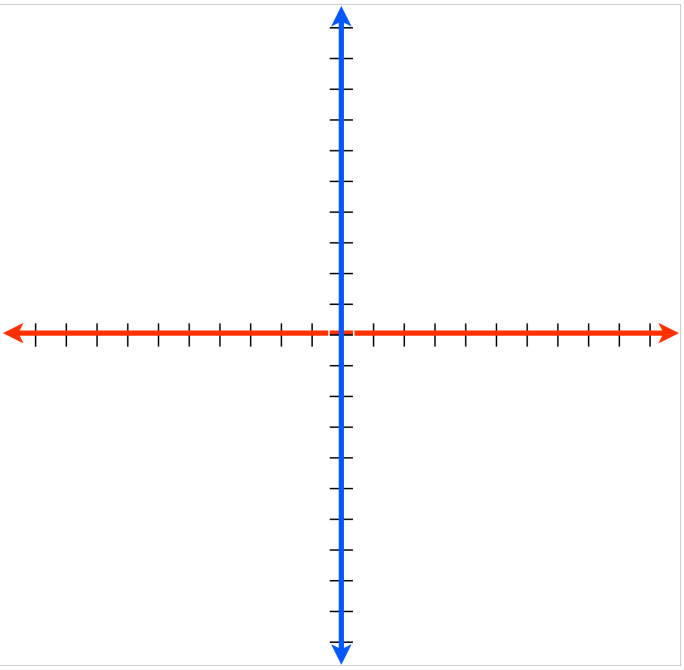
$y = \sqrt{\frac{1}{3}x}$



Square Function

$y = x^2$

$y = (2x)^2 + 2$



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