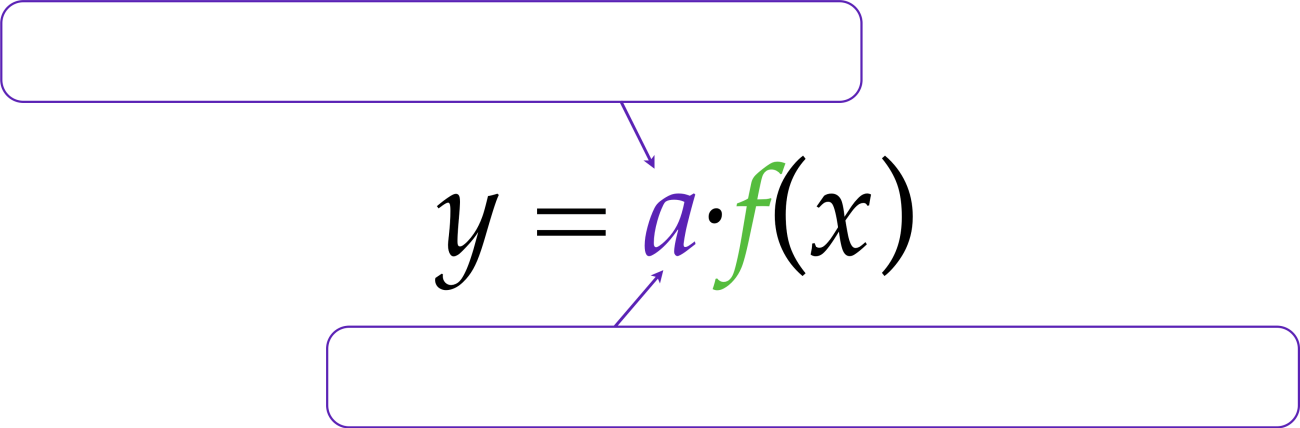


Given Function $y = f(x)$, then the equation...


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

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

Parent Function $y = f(x)$

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

Square Function

$$y = x^2$$

Absolute Value Function

$$y = |x|$$

Logarithmic Function

$$y = \log x$$

Cube Function

$$y = x^3$$

Square Root Function

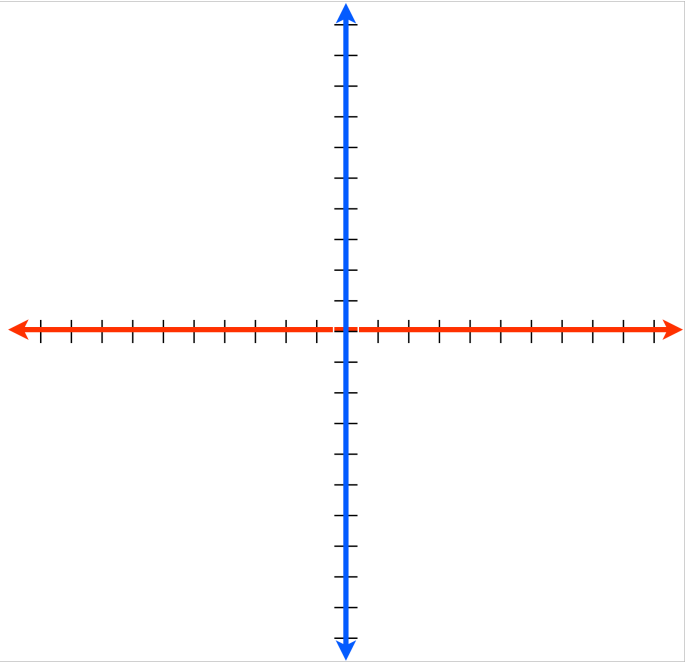
$$y = \sqrt{x}$$

Square Function

$$y = x^2$$

$$y = 2x^2$$

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

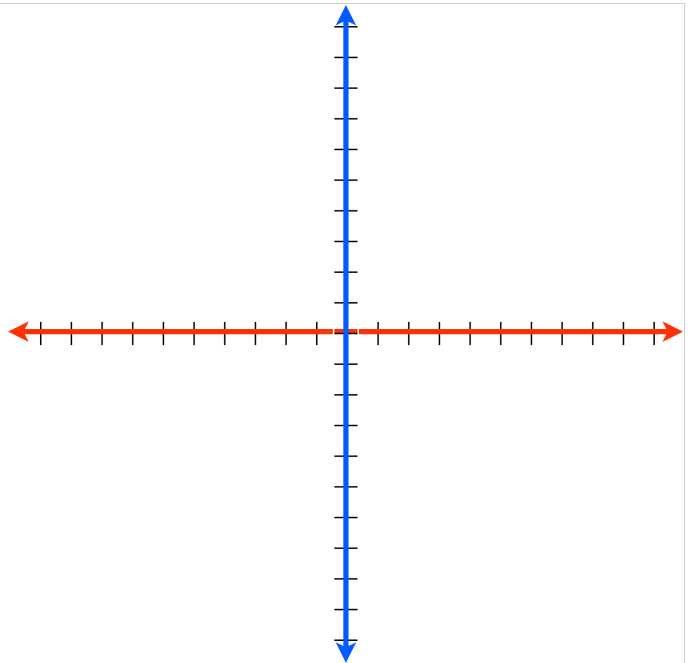


Absolute Value Function

$$y = |x|$$

$$y = 3|x|$$

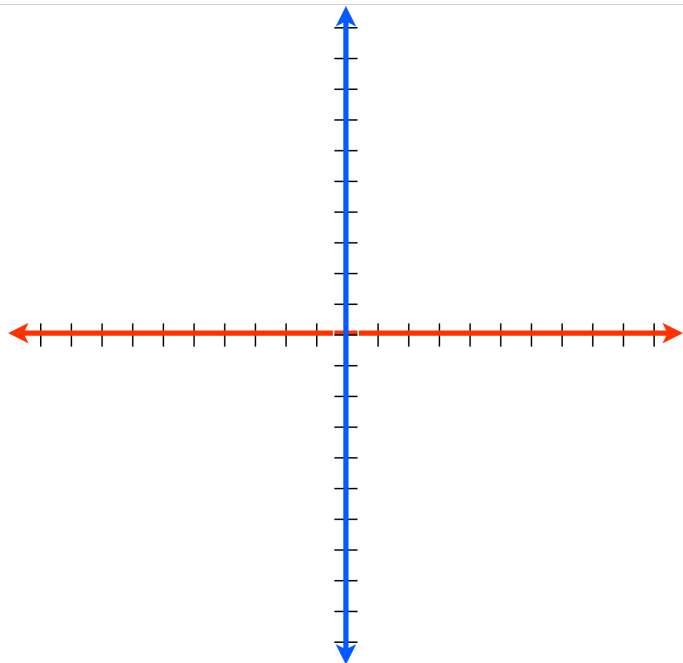
$$y = \frac{1}{3}|x|$$



Square Function

$$y = x^2$$

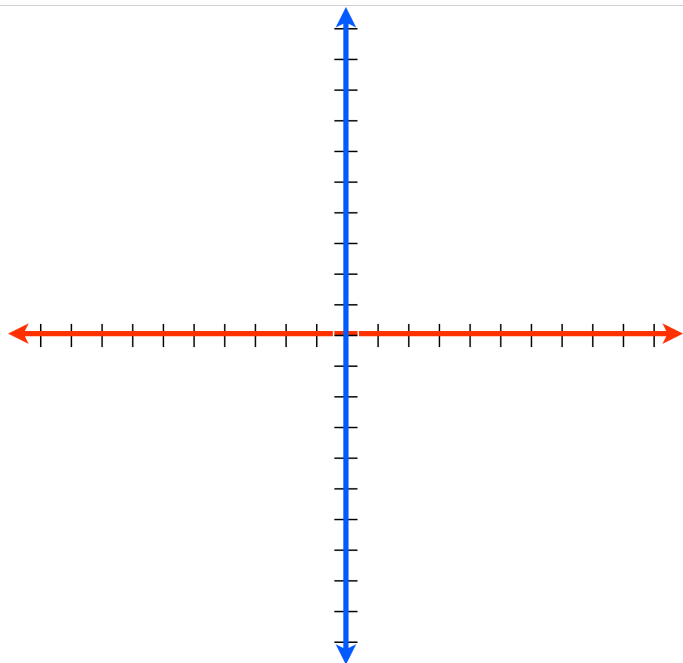
$$y = 3(x - 3)^2 + 2$$



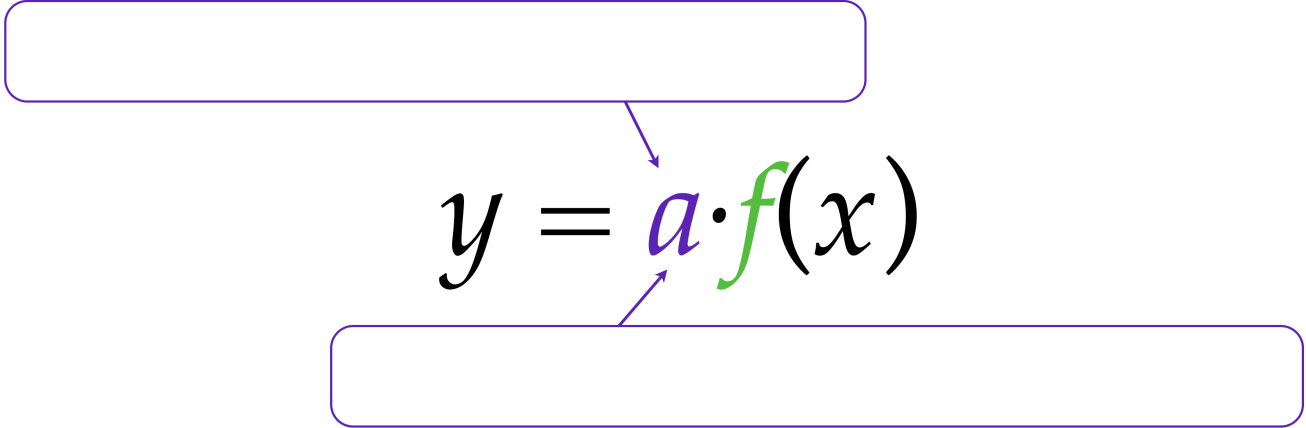
Absolute Value Function

$$y = |x|$$

$$y = \frac{1}{3}|x + 2| - 1$$



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


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

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