

Transformations of Quadratic Functions

Vertical Stretch

$$y = ax^2, \text{ if } a > 1$$

If the a value is greater than 1, the graph "stretches" or narrows.

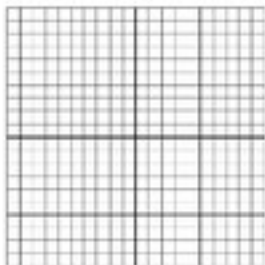
Vertical Compression

$$y = ax^2, \text{ if } 0 < a < 1$$

If the a value is less than 1, the graph "compresses" or widens.

On the coordinate planes below, graph the parent function first and then the example provided. Compare the two graphs.

$$y = 2x^2$$



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

