

Name:

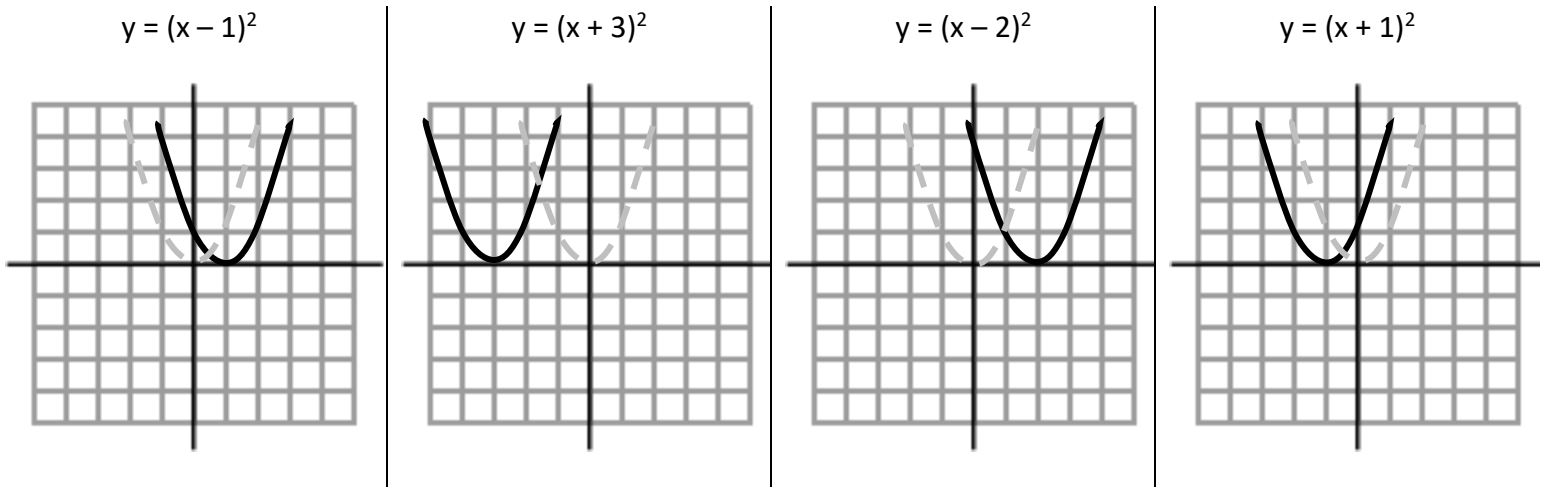
Date:

Period:

When a **function** is shifted horizontally and/or vertically, stretched or shrunk (compressed), or flipped in any way from its **parent function**, it is said to be transformed, and is a **transformation** of a **function**.

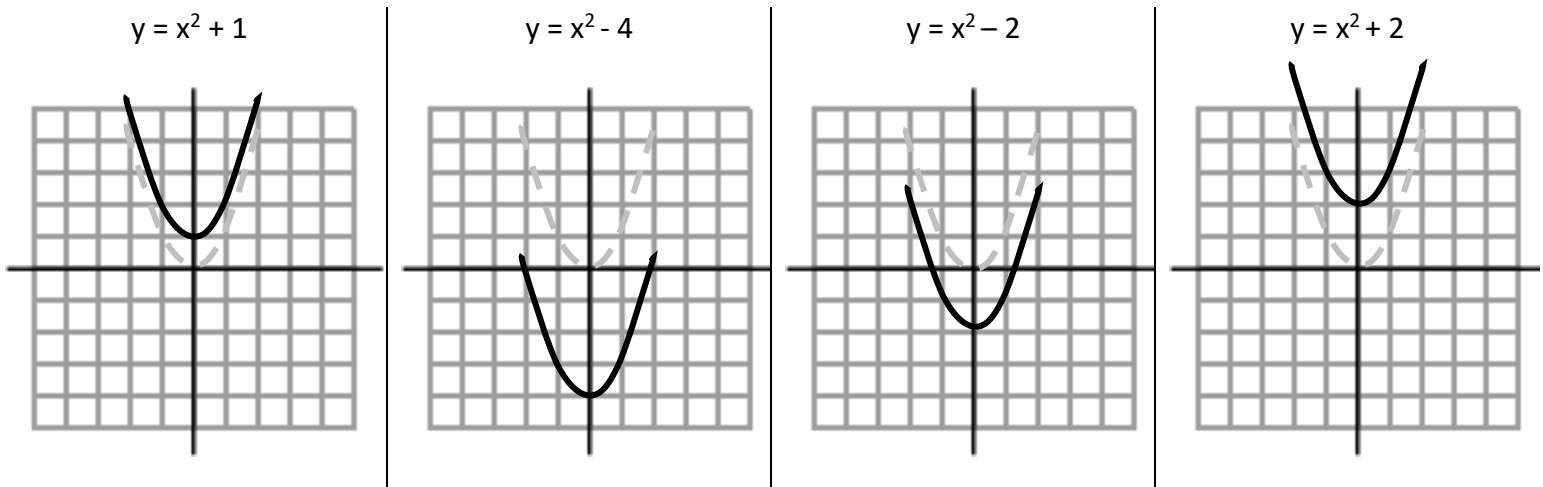
Let's explore some transformations and their effects of the equation.

Consider the following equations and their graphs.



What effect does the number INSIDE the parenthesis have on the parent function?

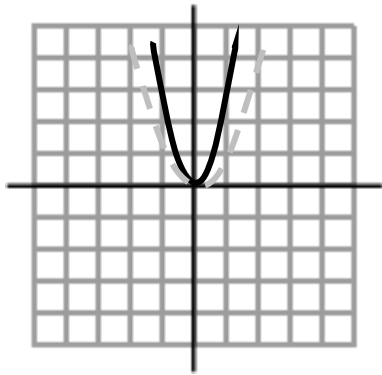
Consider the next set of equations and their graphs...



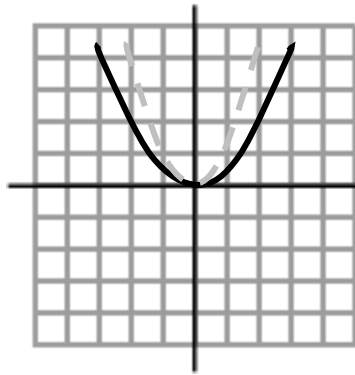
What effect does the number NOT INSIDE the parenthesis have on the parent function?

Consider the next set of equations and their graphs.

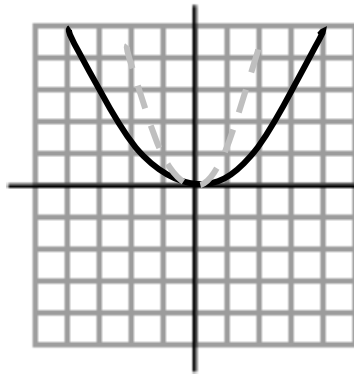
$$y = 2x^2$$



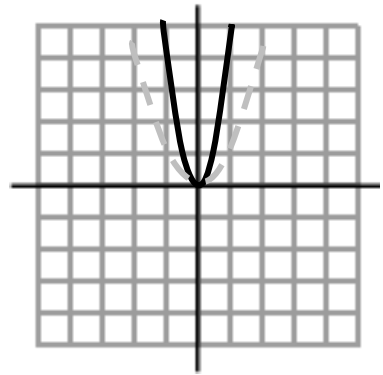
$$y = \frac{1}{2}x^2$$



$$y = \frac{1}{3}x^2$$

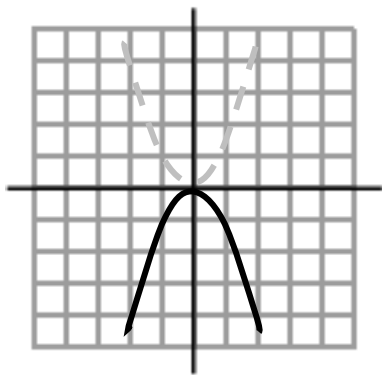


$$y = 3x^2$$

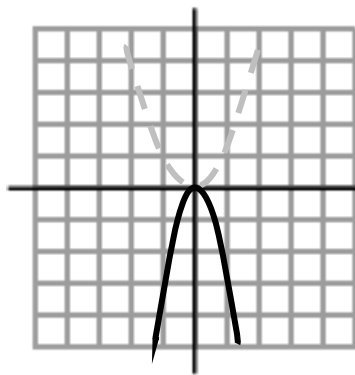


What effect does the "a" have on the parent function?

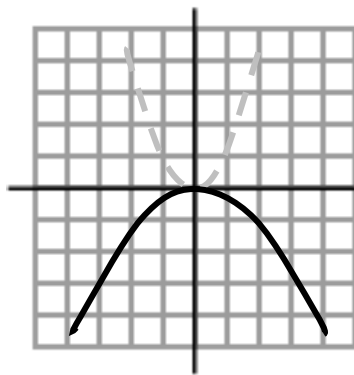
$$y = -x^2$$



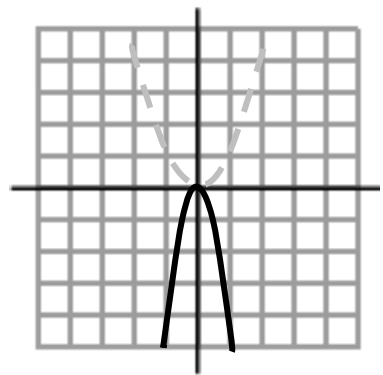
$$y = -2x^2$$



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



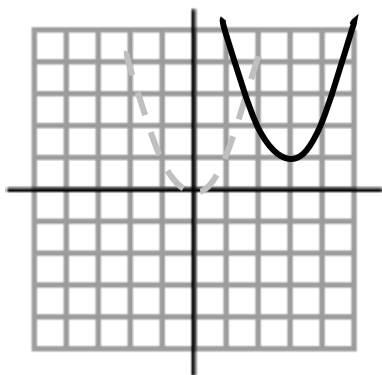
$$y = -3x^2$$



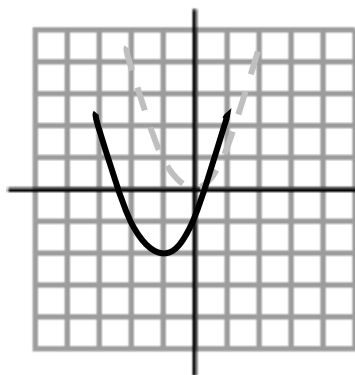
What effect does the sign of "a" have on the parent function?

Do you think you could write the equations of the following graphs based on the previous observations?

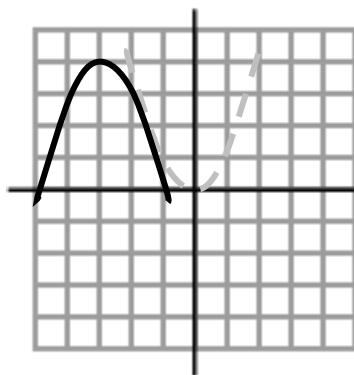
Equation: _____



Equation: _____



Equation: _____



Equation: _____

