

Algebra 1 Transforming Parabolas Exploration Spring 2016

For this exploration you will be graphing parabolas using the Graphing Calculator to explore how changing some of the numbers in the equation affects the graph.

Quadratic in Standard Form: $y = ax^2 + bx + c$

Graph $Y_1 = x^2$ in a Standard Window and leave this in Y_1 for the entire exploration.

Standard Window:

$$X_{\min} = -10$$

$$X_{\max} = 10$$

$$Y_{\min} = -10$$

$$Y_{\max} = 10$$

Part 1 Changing the size of a

In Y_2 try graphing $y = ax^2$ with different values of a , but keeping it positive. Notice what happens to the graph when you change the size of a .

How does the size of a affect the shape of the graph?

Part 2 Changing the value of c .

In Y_2 try graphing $y = x^2 + c$ for different values of c , both positive and negative. Notice what happens to the location of the graph when you change the value of c .

How does the value of c affect the location of the graph?