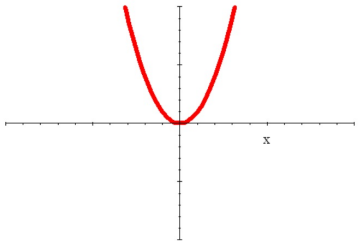
Using a graphing calculator graph the following in Y_1 using a standard window.

$$Y_1 = x^2$$

$X_{min} = -10$
$X_{max} = 10$
$Y_{min} = -10$
$Y_{max} = 10$

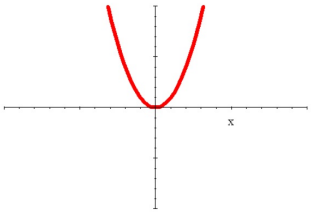
This is the Parent Quadratic Function



Leave $Y_1 = x^2$

In Y_2 enter equations like this : $Y_2 = ax^2$ using different POSITIVE values for a. Notice how the graph changes and make some conclusions about what the value of a does to the graph.

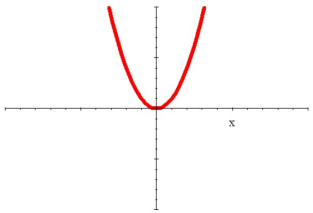
$Y_1 = ax^2$
$a = 1$



Leave $Y_1 = x^2$

In Y_2 enter equations like this : $Y_2 = ax^2$ using different NEGATIVE values for a. Notice how the graph changes and make some conclusions about what the value of a does to the graph.

$Y = ax^2$
$a = 1$



Complete each statement.

$y = ax^2$

- When a is positive and bigger than 1 the graph
- When a is positive and between 0 and 1the graph
- When a is negative the graph

Put the following quadratic functions in order from Widest to Narrowest:

A. $y = x^2$

B. $y = 7x^2$

C. $y = 0.75x^2$

D. $y = 0.2x^2$

E. $y = 3x^2$

Widest

↓

Narrowest

Match each equation to it's graph.

___ $y = 0.25x^2$ ___ $y = -5x^2$ ___ $y = 2x^2$

___ $y = -0.1x^2$ ___ $y = 10x^2$ ___ $y = -x^2$