Graphs of Parabolas and V-shapes

Quadratic Functions

$y = a(x-h)^2 + k$

$y = ax^2 + bx + c$

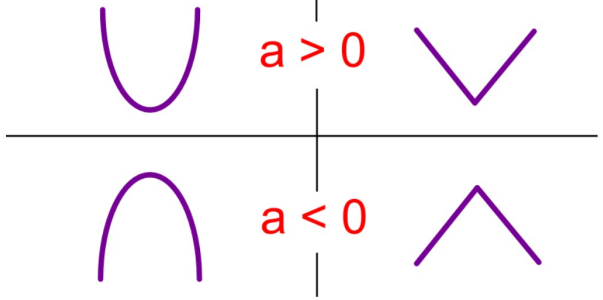
Absoltue Value Functions

$y = a|x - h| + k$

$y = a(x-h)^2 + k$

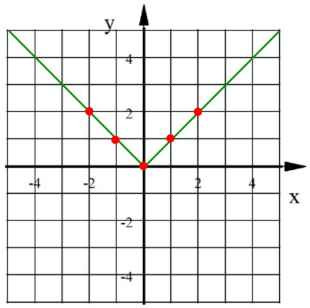
$y = ax^2 + bx + c$

$y = a|x - h| + k$



The Parent Function $y = |x|$

x	y
-2	2
-1	1
0	0
1	1
2	2



What is the vertex of the Parent Function?

(0,0)

What is the slope of the sides of the Parent Function?

Right Side: Slope = 1

Left Side: Slope = -1

Graphing Absolute Value Functions with a graphing calculator.

To graph Absolute Value equations on the Ti-84 you press Y= then perss MATH, arrow to the right so you are under NUM. Choose Option 1: abs(

Enter the equation Y_1 = abs(X) then you can graph it.

Absolute Value Graphs Exploration

Graph $Y_1 = |x|$

Put every other graph in Y_2

Translations of $y = |x|$ and $y = -|x|$

1. Graph $Y_2 = |x + 3|$ How has this graph moved compared to the parent function?

3 units left

What are the coordinates of the vertex?

(-3, 0)