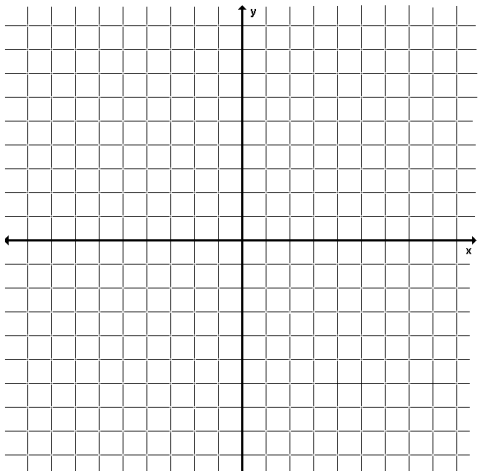
LC MATH I

Final Review #5 : Quadratic Functions

The parent quadratic function, $y = x^2$, looks like this:

x	$y = \|x\|$
-3	
-2	
-1	
0	
1	
2	
3	



Vertex form of the quadratic function:

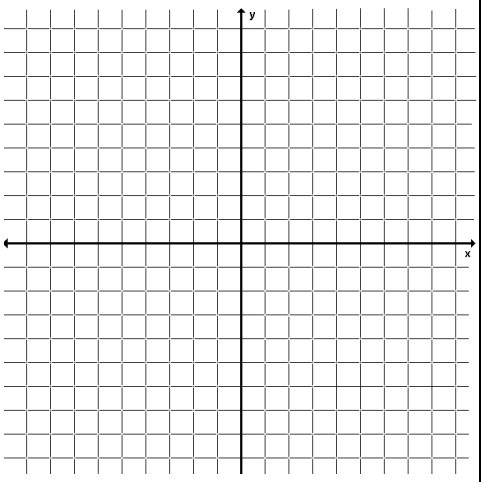
Examples:

1. $y = 2(x-3)^2 - 7$

Vertex:

Concavity:

Vertical stretch/ compression:

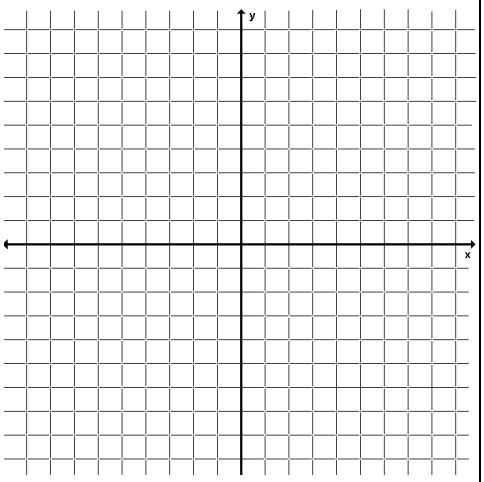


2. $y = -(x+1)^2 + 6$

Vertex:

Concavity:

Vertical stretch/ compression:



Factored form of the quadratic function:

Examples:

3. What are the roots of $y = 2(x-3)(x+4)$?

4. What are the x-intercepts of $y = x^2 + 5x$?

Finding the y-intercept

$y = x^2 + 16x + 71$	$y = 2(x-3)^2 + 10$

Rewriting in Standard Form:

$y = 2(x+3)(x-7)$	$y = 2(x-3)^2 + 10$

Rewriting in Vertex Form to Find the Vertex:

$y = x^2 + 16x + 71$	$y = 3x^2 - 12x + 8$