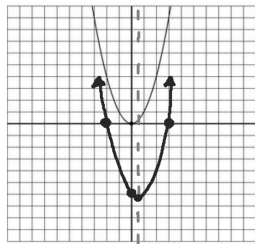


Warm-Up: October 2, 2014

$y = x^2 - x - 6$

- Direction: up
- y-intercept: $(0, -6)$
- Axis of Symmetry: $x = .5$
- Vertex: $(.5, -6.25)$
- Factor the above. $(x+2)(x-3)$
- Using the Factors, what are the x-intercepts?
 $(-2, 0)$ and $(3, 0)$
- Use all of the info above to graph the function.



$a \cdot c = -6$

-6	-1
x	+
-3	-2
	-1

What direction does the parabola of the following quadratic functions open?

- $y = 3(x+5)^2 - 8$ → up
- $y = x^2 + 8x + 6$ → up
- $y = -3x^2 + 18x - 4$ → Down

Identify the y-intercept of the following (Hint: table may help):

- $y = 3(x+5)^2 - 8$ $(0, 67)$
- $y = x^2 + 8x + 6$ $(0, 6)$
- $y = -3x^2 + 18x - 4$ $(0, -4)$

Identify the axis of symmetry for each of the following:

- $y = 2(x-8)^2 + 4$ given the vertex is $(8, 4)$ The AOS is $x = 8$.
- $y = 2x^2 + 8x + 5$ given the vertex is $(-2, -3)$ The AOS is $x = -2$.

Find the Vertex of the following:

- $y = 2x^2 - 12x + 4$
 $x = \frac{-b}{2a} = \frac{12}{2(2)}$
 $x = 3$
 $y = 2(3)^2 - 12(3) + 4$
 $y = -14$
 $V = (3, -14)$
- $y = x^2 + 8x + 7$
 $x = \frac{-b}{2a} = \frac{-8}{2(1)}$
 $x = -4$
 $y = (-4)^2 + 8(-4) + 7$
 $y = -9$
 $V = (-4, -9)$
- $y = -2x^2 + 12x - 2$
 $x = \frac{-b}{2a} = \frac{-12}{2(-2)}$
 $x = 3$
 $y = -2(3)^2 + 12(3) - 2$
 $y = 16$
 $V = (3, 16)$

Use the following function to answer questions 12-16. $y = 3(x+2)^2 - 8$

- Identify the vertex of this function. $V = (-2, -8)$
- Does this graph reflect? NO
- Identify the vertical shift of this function. Down 8
- Identify the horizontal shift of this function. Left 2
- Identify the dilation of this function. vertical stretch

Use the following function to answer questions 17-21. $y = -\frac{1}{2}(x-4)^2 + 6$

- Identify the vertex of this function. $V = (4, 6)$
- Does this graph reflect? yes
- Identify the vertical shift of this function. up 6
- Identify the horizontal shift of this function. right 4
- Identify the dilation of this function. vertical shrink

22. What is the domain of all quadratic functions?

All Real #'s

Given the following equations in intercept form, what are the x-intercepts of their graph?

- $y = 3(x+8)(x-9)$ $(-8, 0)$ $(9, 0)$
- $y = -2(x-5)(x-10)$ $(5, 0)$ $(10, 0)$
- $y = (x+7)(x+12)$ $(-7, 0)$ $(-12, 0)$