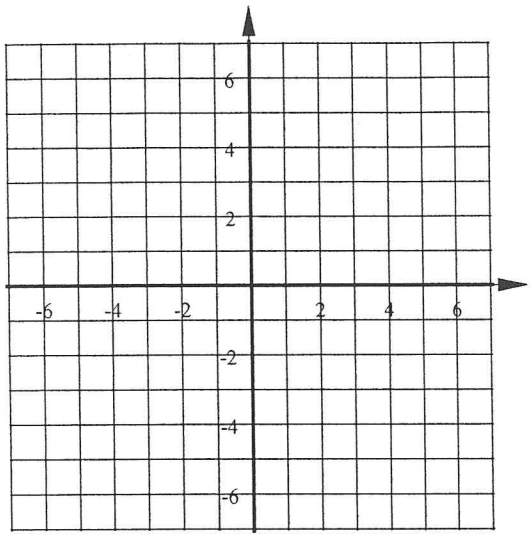
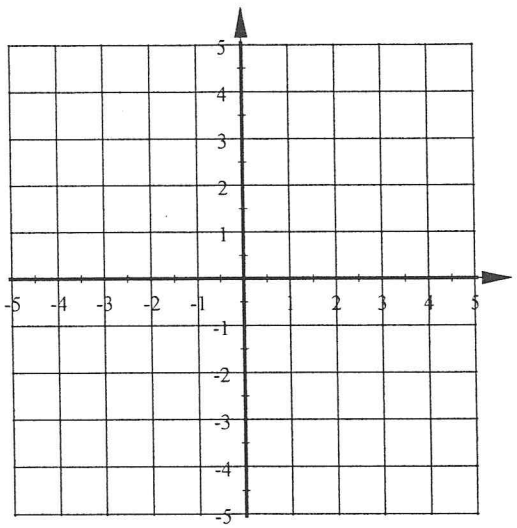
Algebra 2 Bellwork Thursday, October 23, 2014

1. Graph each quadratic using 5 points.

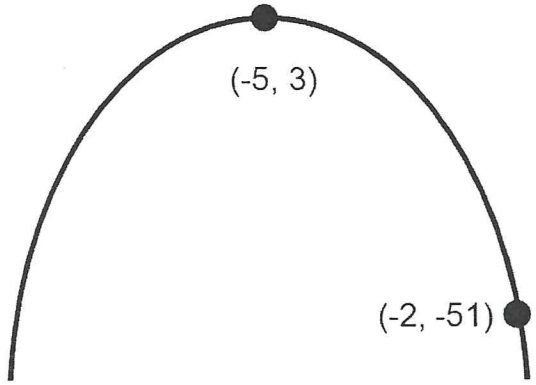
a) $y = -3(x-2)^2 + 5$



b) $y = \frac{1}{2}(x+1)^2 - 3$



2. Write the equation of this quadratic in Vertex Form.



3. Given the vertex of a parabola is $(-2, 5)$ write the equation of the Line of Symmetry.

4. Given the equation $y = 2x^2 + 12x - 9$

a) State the coordinates of the vertex if the equation for the Line of Symmetry is $x = -3$

b) State the y-intercept.

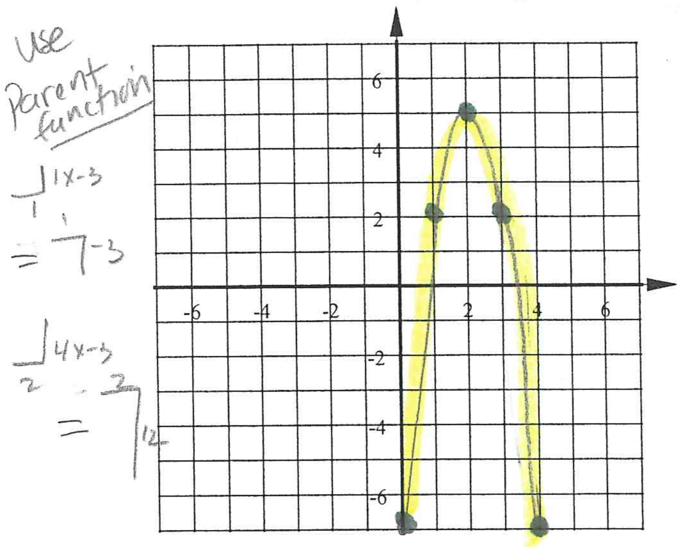
Algebra 2 Bellwork Thursday, October 23, 2014 Answers

1. Graph each quadratic using 5 points.

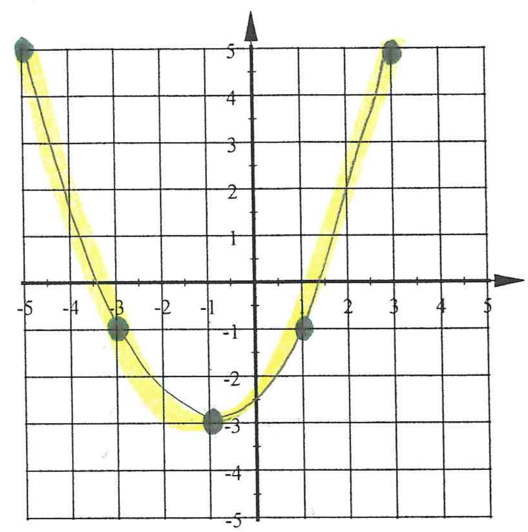
a) $y = -3(x-2)^2 + 5$ Vertex (2, 5) V. stretch factor = -3

b) $y = \frac{1}{2}(x+1)^2 - 3$ Vertex (-1, -3) V shrink factor 1/2

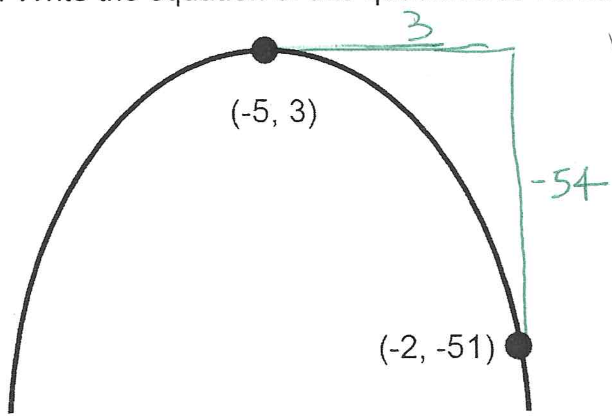
Use Parent function



use parent function



2. Write the equation of this quadratic in Vertex Form.



Vertex (-5, 3) → 5 left 3 up

$y = a(x+5)^2 + 3$

parent function

$a = \frac{-54}{9} = -6$

$y = -6(x+5)^2 + 3$

3. Given the vertex of a parabola is $(-2, 5)$ write the equation of the Line of Symmetry.

$x = -2$

4. Given the equation $y = 2x^2 + 12x - 9$

a) State the coordinates of the vertex if the equation for the Line of Symmetry is $x = -3$

$(-3, -27)$

$y = 2(-3)^2 + 12(-3) - 9 = 18 - 36 - 9 = -18 - 9 = -27$

b) State the y-intercept.

y-int = -9 or (0, -9)

$y = 2(0)^2 + 12(0) - 9 = -9$