

Name: _____

Date: _____ Per: _____

WS – Graphing and Solving Quadratic Equations

Formulas Review:

- 1) What's the general form of a quadratic equation? _____
- 2) What coefficient variable helps determine how a parabola opens? _____
- 3) If given only the quadratic equation, what's the formula to figure out the axis of symmetry? _____
- 4) What is the vertex of a parabola? _____
- 5) Given the coordinate (ordered pair) of the vertex:

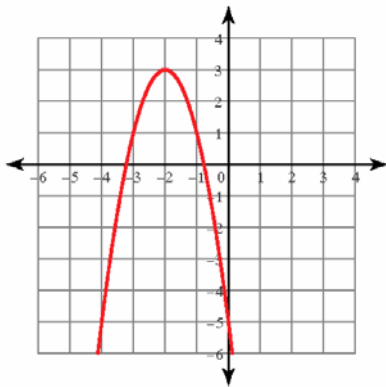
Which coordinate helps indicate the axis of symmetry? _____

Which coordinate helps indicate the greatest or least value? _____

Practice:

From the drawn parabolas, find the indicated information. Check using the axis of symmetry formula and plugging it back into the equation to find the least or greatest value.

6) $y = -2x^2 - 8x - 5$



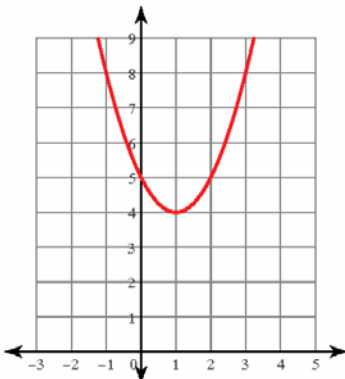
a) Vertex: _____

d) Check: _____

b) Axis of Symmetry: _____

c) Greatest/least value: _____

7) $y = x^2 - 2x + 5$



a) Vertex: _____

d) Check: _____

b) Axis of Symmetry: _____

c) Greatest/least value: _____

Fill out the indicated information. (Clue: you may have to adjust the scales on the coordinate planes)

8) $y = -x^2 - 2x + 3$

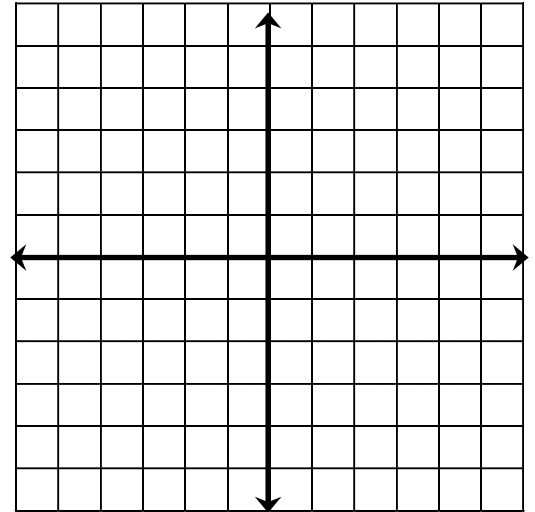
a) Open up or down? _____

b) Vertex: _____

c) Axis of Symmetry: _____

d) Greatest/least value: _____

e)



9) $y = 2x^2 - 4x - 2$

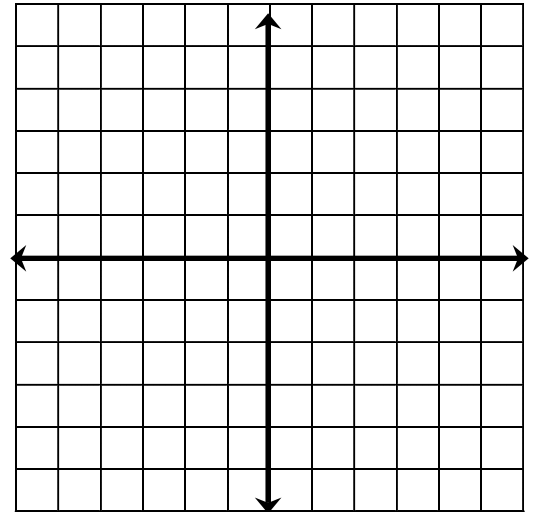
a) Open up or down? _____

b) Vertex: _____

c) Axis of Symmetry: _____

d) Greatest/least value: _____

e)



10) $y = -2x^2 + 4x$

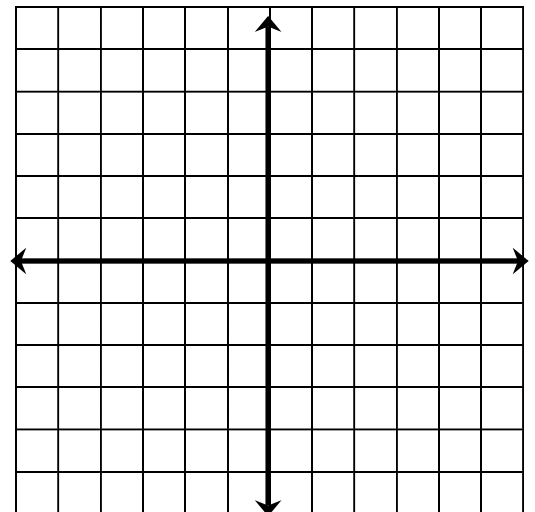
a) Open up or down? _____

b) Vertex: _____

c) Axis of Symmetry: _____

d) Greatest/least value: _____

e)



Helpful Reminders:

- The x-coordinate of the vertex is $\frac{-b}{2a}$ and then you need to plug that number in to find the y-coordinate.
- The axis of symmetry is the vertical line through the vertex.

11) $x^2 + 4x + 4 = y$

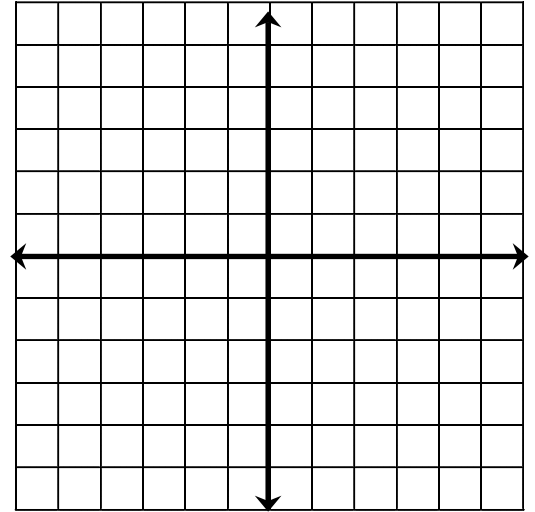
a) Open up or down? _____

b) Vertex: _____

c) Axis of Symmetry: _____

d) Greatest/least value: _____

e)



12) $y = -3x^2 - 6x$

a) Open up or down? _____

b) Vertex: _____

c) Axis of Symmetry: _____

d) Greatest/least value: _____

e)

