Unit 5 - Quadratic Functions

Name: _____

Day 12 Review Worksheet #2

Date: _____ **Hour:** _____

Graphing Quadratics in Standard Form

(PH A2 Reteach 5-2)

$$f(x) = ax^2 + bx + c \qquad x = -\frac{b}{2a}$$

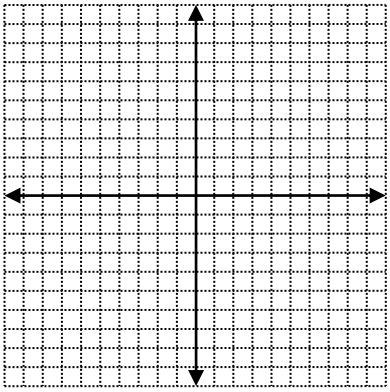
A. Identify the **vertex**, **axis of symmetry**, and the **y-intercept** for each exercise. Have the teacher check your work **BEFORE** you move on to parts B – D.
B. Use the concept of symmetry to mirror the y-intercept and sketch a graph of the parabola. Be sure to label the axis of symmetry.
C. State the domain and range for each function.
D. Tell whether the function has a maximum or minimum and write down what it is equal to.
E. Use the graphing calculator to double check your work. Use the trace function to double check the maximum or minimum values.
F. State the end behavior for each graph.

1. $y = x^2 - 4x + 7$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

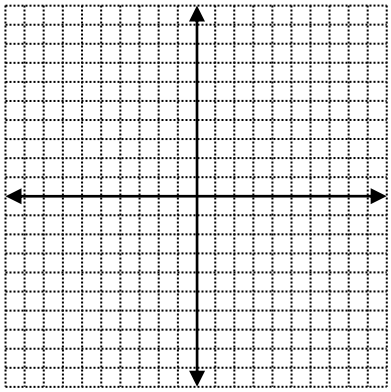
End Behavior:
As $x \to +\infty$ $y \to$ _____
As $x \to -\infty$ $y \to$ _____

2. $f(x) = x^2 + 8x + 11$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

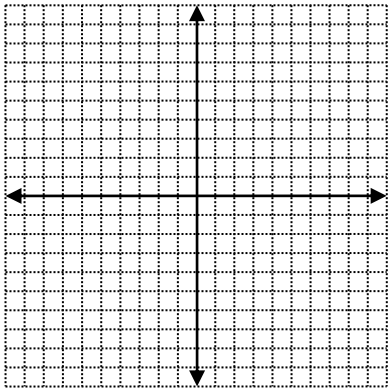
End Behavior:
As $x \to +\infty$ $f(x) \to$ _____
As $x \to -\infty$ $f(x) \to$ _____

3. $y = -3x^2 + 6x - 9$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

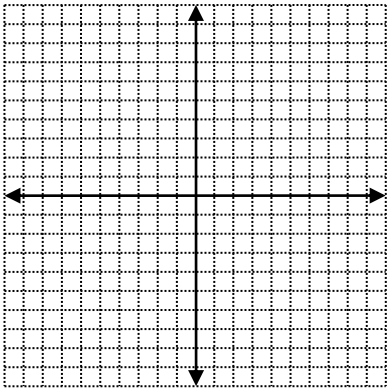
End Behavior:
As $x \to +\infty$ $y \to$ _____
As $x \to -\infty$ $y \to$ _____

4. $f(x) = -x^2 - 8x - 15$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

End Behavior:

As $x \to +\infty$ $f(x) \to$ _____

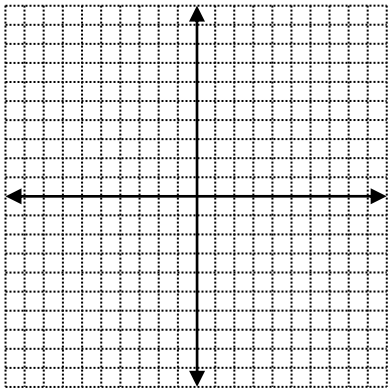
As $x \to -\infty$ $f(x) \to$ _____

5. $y = 2x^2 - 8x + 1$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

End Behavior:

As $x \to +\infty$ $y \to$ _____

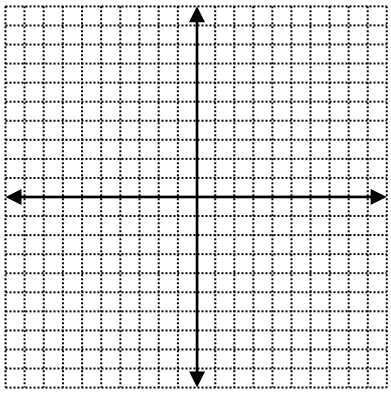
As $x \to -\infty$ $y \to$ _____

6. $f(x) = -2x^2 - 12x - 7$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

End Behavior:

As $x \to +\infty$ $f(x) \to$ _____

As $x \to -\infty$ $f(x) \to$ _____