Unit 5 - Quadratic Functions **Name:** _____

Day 12 Graphing Quadratics in Standard Form **Date:** _____ **Hour:** _____

$$f(x) = ax^2 + bx + c$$

Show all work for the vertex points on a separate sheet of paper.

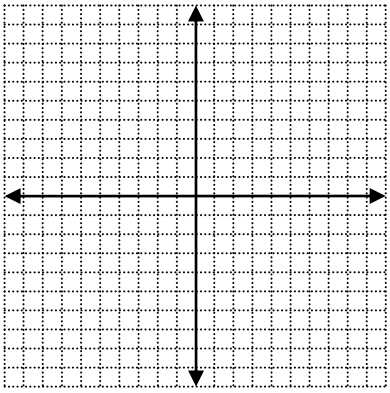
A. Identify the vertex, axis of symmetry, and the y-intercept for each exercise. Have the teacher check your work **BEFORE** you move on to parts B – D.
B. Use the concept of symmetry to mirror the y-intercept and sketch a graph of the parabola. Be sure to label the axis of symmetry.
C. State the domain 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. Use the trace function to *estimate* the zero(s). They are the x-intercepts on each of the graphs.

1. $y = x^2 - 6x + 4$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

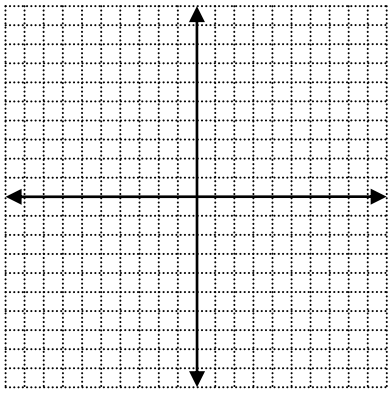
zero(s): _____

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

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

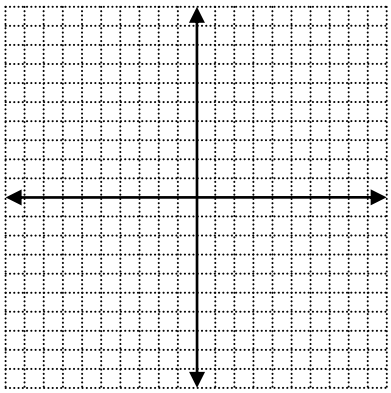
zero(s): _____

3. $f(x) = x^2 + 8x + 10$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

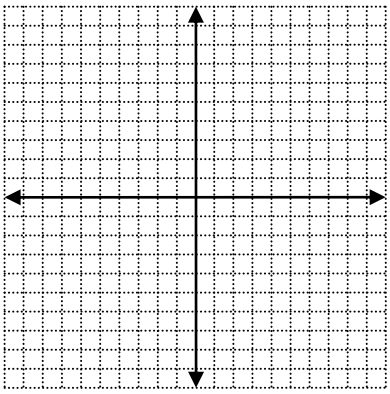
zero(s): _____

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

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

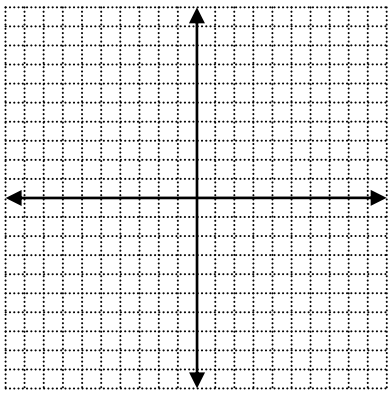
zero(s): _____

5. $f(x) = -x^2 - 4x + 4$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

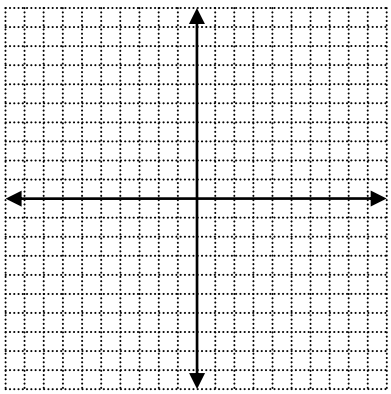
zero(s): _____

6. $y = 4x^2 - 16x + 10$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

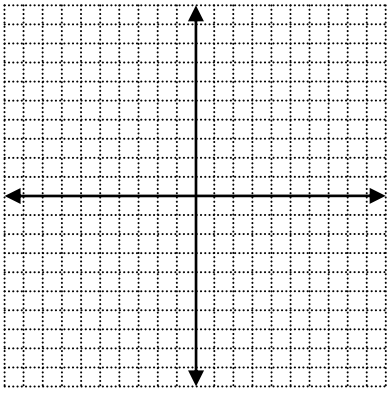
zero(s): _____

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

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

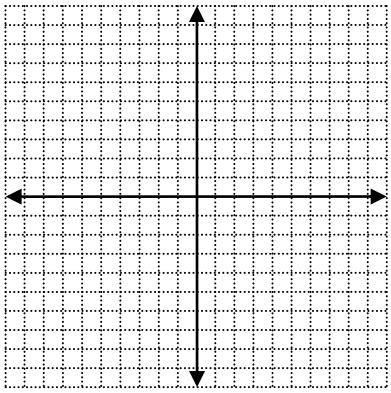
zero(s): _____

8. $y = 4x^2 + 8x$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

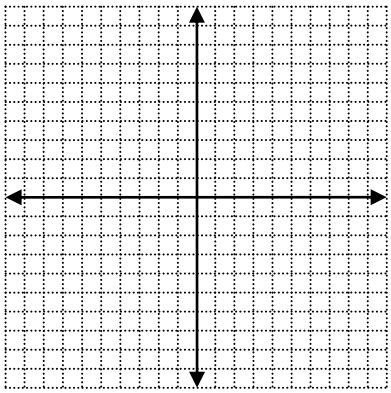
zero(s): _____

9. $f(x) = -3x^2 + 6$

vertex: _____

axis of symmetry: _____

y-intercept: _____



Domain: _____

Range: _____

Max or Min?_____

zero(s): _____