

Name \_\_\_\_\_

## Quadratics Quiz

**For questions 1-2, give the line of symmetry and vertex of the parabola, stating whether the vertex is a maximum or a minimum. Then tell whether it opens upward or downward and how skinny or wide it is. Finally, draw a rough sketch of the parabola using the attached graph paper.**

1.  $y = 5x^2 - 3$

2.  $y = -\frac{1}{2}x^2 + 2x + 4$

Line of Symmetry:

Line of Symmetry:

Vertex:

Vertex:

Opens Up or Down?

Opens Up or Down?

Maximum or Minimum?

Maximum or Minimum?

Skinny, Wide, or Normal?

Skinny, Wide, or Normal?

Sketch on attached graph paper.

Sketch on attached graph paper.

3. Solve this equation by graphing:

$$x^2 + 2x - 3 = 0$$

4. Solve this equation by solving:

$$\frac{b^2}{4} - 16 = 0$$

Use the attached graph paper.

5. Solve this equation by completing the square:

$$2w^2 - 16w + 14 = 0$$

6. Solve this equation by using the quadratic formula:

$$x^2 + 209 = -30x$$

7. Solve this equation by factoring and using the zero product rule:

$$k^2 - 3k = 10$$

8. Solve this equation by using the quadratic formula:

$$2x^2 - 3x + 5 = 0$$

**For problems 9-10, use the discriminant to determine how many solutions the equation has. *You do not have to solve the equation.***

9.  $\frac{5}{4}x^2 - 5x + 5 = 0$

10.  $3x^2 - 17 = 0$

**For problems 11-12, solve each equation using the method of your choice.**

11.  $4p^2 - 20p = 0$

12.  $m^2 + 6m + 5 = 0$





