

Name \_\_\_\_\_

Date \_\_\_\_\_

8A; Algebra 1

Period \_\_\_\_\_

### Properties of the Graph of a Quadratic Function Algebra 1 Homework

#### Skills

1. For each of the following, identify if the vertex is a maximum or minimum.

(a)  $y = 2x^2 - 3x + 1$

(b)  $y = 3x^2 - 2x + 7$

(c)  $y = -x^2 + 5x - 9$

2. Write the following quadratic functions in standard form.

(a)  $y = 2x - 1 + 3x^2$

(b)  $y = -2x - x^2 + 5$

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

3. Which of the following equations does not represent a quadratic function?

(1)  $y = 3x^2 - 7$

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

(2)  $y = x + 7$

(4)  $y = -x^2 + 7x + 9$

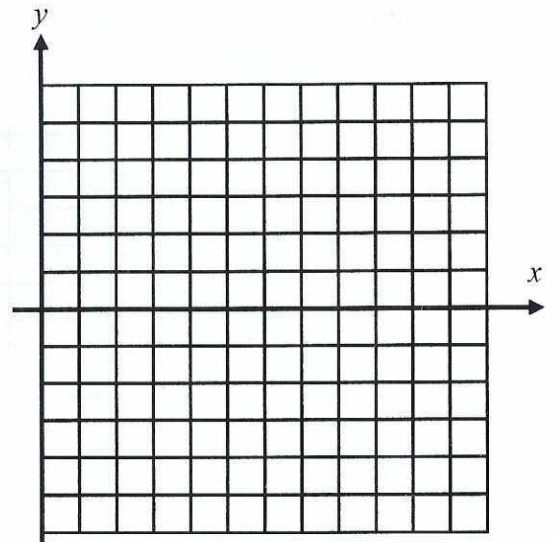
4. Given the function  $y = 5 - 6x + x^2$

(a) Write the function in standard form.

(b) Is the turning point a maximum or minimum?

(c) Graph the function by setting up a table on the calculator.  
Show your table in the space below.

(d) Find all  $x$ -intercepts.



**Graphing Quadratic Functions with the Graphing Calculator**  
**Algebra 1 Homework**  
*Continued*

**Skills**

For problems #1-3, determine: (a) the axis of symmetry.  
(b) the coordinates of the vertex.  
(c) whether the vertex is a maximum or a minimum.

1.  $y = 2x^2 - 8x + 7$

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

3.  $y = 4x + 2x^2 - 5$

4. Which of the following equations has a graph that is narrower than the graph of  $y = 3x^2 + 5$ ?

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

(3)  $y = -0.5x^2 + 3$

(2)  $y = -2x^2 + 9$

(4)  $y = 4x^2 + 6$

5. Which of the following are the coordinates of the vertex of  $y = x^2 - 4x + 5$ ?

(1) (2,1)

(2) (-2,17)

(3) (4,5)

(4) (0,5)

6. Which of the following points is not on the graph of  $y = 2x^2 - 7$ ?

(1) (-1,-5)

(2) (3,25)

(3) (0,-7)

(4) (1,-5)

7. Which parabola has a turning point at (2.5, 6.25)?

(1)  $y = -x^2 - 4x$

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

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

(4)  $y = -x^2 + 5x$