

Name _____

Period _____ Date _____

Homework 9.1.2

1. Use what you learned in the Parabola Lab to write an equation for each of the parabolas described below.

a. A parabola opening upward, shifted 7 units right, and 4 units down.

b. A parabola that is vertically stretched by a factor of 2, sitting with its vertex on the x-axis at $x=-3$.

c. A downward-opening parabola with vertex $(-5,2)$ and a vertical compression of 0.5.

2. Solve each inequality. Then represent each solution on a number line.

a. $4x-3 \geq 9$

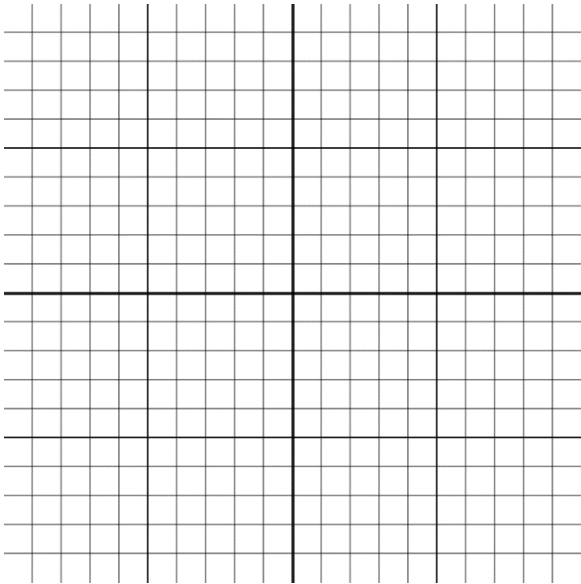
b. $3(x+4) < 5$

c. $\frac{2x}{7} < 8$

d. $5x + 4 > -3(x - 8)$

3. Write the equation of a quadratic function containing the points in the table below. Then make a complete graph on graph paper.

x	-4	-3	-2	-1	0	1	2	3	4	5	6	7
y	18	8	0	-6	-10	-12	-12	-10	-6	0	8	18



4. Solve the following systems of equations algebraically.

a. $x + y = 3$
 $x = 3y - 5$

b. $x - y = -5$
 $y = -2x - 4$

5. Examine the diagram below. Use the given geometric relationships to solve for x , y , and z . Be sure to justify your work by stating the geometric relationship and applicable theorem.

