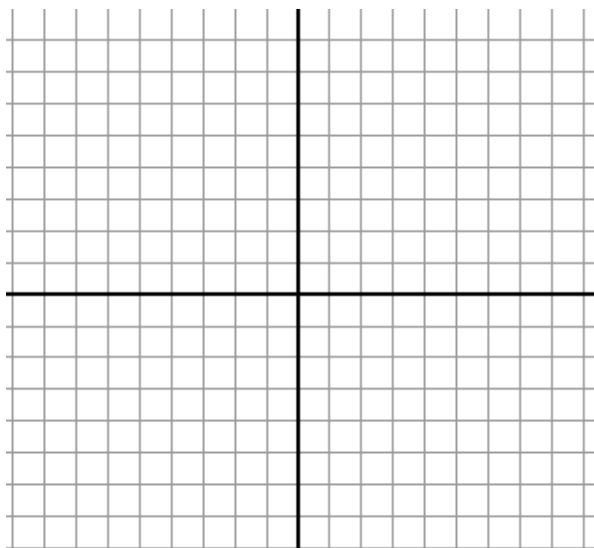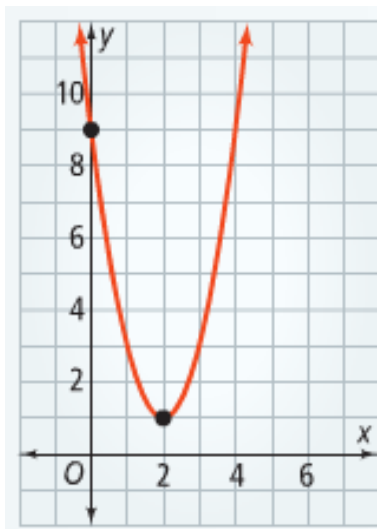Name:_____   Date:_____

Mid Chapter Quiz

Graph this function.

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

2. Write the equation of this parabola in vertex form.

_____

Identify the axis of symmetry, maximum or minimum value, and the domain and range of each function.

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

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

axis of symm. = _____   axis of symm. = _____

   circle   circle

max or min: Value _____   max or min: Value _____

Domain _____   Domain _____

Range _____   Range _____

Write each expression in factored form.

5. $3x^2 + 11x - 20$

6. $9x^2 + 30x + 25$

_____   _____

7. $25x^2 - 4$

8. $5x^2 + 23x + 26$

_____   _____
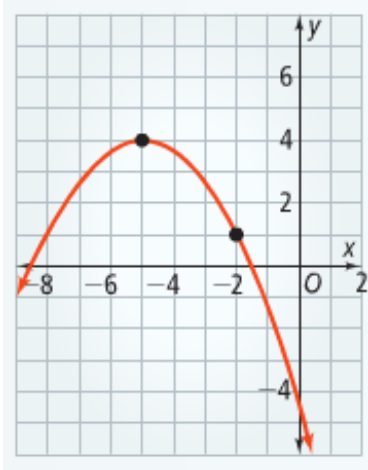
Find a quadratic model in standard form for each set of values.

9. (2,0), (3, -2), (1, -2)

_____

Write the equation of the parabola in vertex form.

10.

_____

11. Rewrite the equation $y = -3x^2 - 6x - 8$ in vertex form.

_____

11. *Physics:* A man throws a ball off the top of a building and records the height of the ball at different times, as shown in the table.

a) Find a quadratic model for the data.

_____

b) Use the model to estimate the height of the
   ball at 2.5 seconds.

_____

c) What is the ball's maximum height?

_____

Height of a Ball	
Time (s)	Height (ft)
0	46
1	63
2	48
3	1