

**LESSON**  
**2-2**

**Practice B**

**Properties of Quadratic Functions in Standard Form**

Identify the axis of symmetry for the graph of each function.

1.  $g(x) = x^2 - 4x + 2$

2.  $h(x) = -8x^2 + 12x - 11$

3.  $k(x) = -4(x + 3)^2 + 9$

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For each function, (a) determine whether the graph opens upward or downward, (b) find the axis of symmetry, (c) find the vertex, and (d) find the y-intercept. Then graph the function.

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

a. Upward or downward \_\_\_\_\_

b. Axis of symmetry \_\_\_\_\_

c. Vertex \_\_\_\_\_

d. y-intercept \_\_\_\_\_

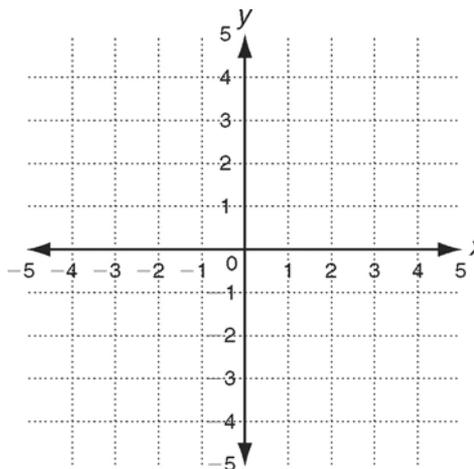
5.  $g(x) = 2x^2 + 4x - 2$

a. Upward or downward \_\_\_\_\_

b. Axis of symmetry \_\_\_\_\_

c. Vertex \_\_\_\_\_

d. y-intercept \_\_\_\_\_



Find the minimum or maximum value of each function. Then state the domain and range of the function.

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

7.  $h(x) = -5x^2 + 15x - 3$

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**Solve.**

8. A record label uses the following function to model the sales of a new release.

$$a(t) = -90t^2 + 8100t$$

The number of albums sold is a function of time,  $t$ , in days. On which day were the most albums sold? What is the maximum number of albums sold on that day?

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