

Name \_\_\_\_\_

**6-4B Lesson Master****Questions on SPUR Objectives**  
See Student Edition pages 446–449 for objectives.**SKILLS** Objective B

In 1–6, rewrite the equation in standard form.

1.  $y + 6 = (x - 3)^2$  \_\_\_\_\_

2.  $y - 1 = 2(x - 4)^2$  \_\_\_\_\_

3.  $y = (x + 7)^2$  \_\_\_\_\_

4.  $y = -3(x + 5)^2 + 8$  \_\_\_\_\_

5.  $y + 14 = -x^2$  \_\_\_\_\_

6.  $y - 2 = \frac{2}{3}(x - 9)^2$  \_\_\_\_\_

**PROPERTIES** Objective GIn 7–10, determine whether the given parabola is congruent to  $y = 9x^2$ .

7.  $y - 6 = (9x + 1)^2$  \_\_\_\_\_

8.  $y - 6 = (3x + 1)^2$  \_\_\_\_\_

9.  $y - 6 = \frac{1}{9}(9x + 1)^2$  \_\_\_\_\_

10.  $y - 6 = \frac{1}{9}(3x + 1)^2$  \_\_\_\_\_

**USES** Objective I11. Suppose a ball is thrown upward from a height of 5 feet with an initial velocity of  $35 \frac{\text{ft}}{\text{sec}}$ .a. Write an equation relating the time  $t$  and the height  $h$  of the ball. \_\_\_\_\_

b. Find the height of the ball after 2 seconds. \_\_\_\_\_

c. Is the ball still in the air after 3 seconds? Explain.  
\_\_\_\_\_12. Yoko threw a stone upward at a speed of  $10 \frac{\text{m}}{\text{sec}}$  while standing on a cliff 40 m above the ground.

a. What was the height of the stone after 3 seconds? \_\_\_\_\_

b. Estimate how long it took for the stone to touch the ground. \_\_\_\_\_

Name \_\_\_\_\_

**6-4B**

page 2

13. Kenny is standing on a bridge 22 feet above the water. Suppose he drops a ball over the 3-foot railing.

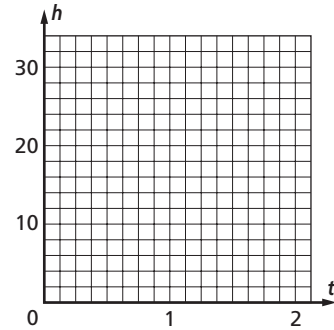
a. Write an equation relating the time  $t$  (in seconds) and the height  $h$  (in feet) of the ball above the water.

\_\_\_\_\_

b. Graph the equation from Part a at the right.

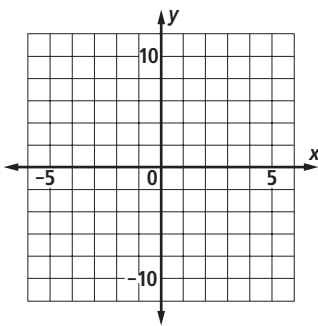
c. Estimate how long it will take for the ball to hit the water. Explain your reasoning.

\_\_\_\_\_

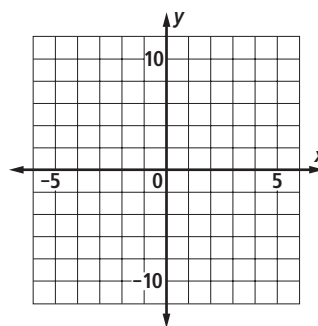


**REPRESENTATIONS** Objective K

14. Graph  $y = x^2 + 2x - 8$  below.



15. Graph  $y = -2x^2 + 7x + 5$  below.



16. The height of a ball thrown upward is shown as a function of time on the graph at the right.

a. Estimate the initial height of the ball.

\_\_\_\_\_

b. Approximately when did the ball reach its maximum height?

\_\_\_\_\_

c. What was the maximum height?

\_\_\_\_\_

d. When was the ball 8 meters high?

\_\_\_\_\_

