## Chapter 13

Indicate the best answer by writing the appropriate letter.

1. Given P(-2, 0) and Q(2, 5), find  $\overrightarrow{PQ}$ .

- **a.** (0, 2.5)
- **b.** (0, 5)
- c. (-4, -5)
- d. (4, 5)

2. Refer to Exercise 1. Find  $|\overline{PO}|$ .

- c.  $\sqrt{29}$

3. A line with slope  $\frac{2}{5}$  passes through point (1, 4). What is an equation of the line?

- **a.**  $y 4 = \frac{2}{5}(x 1)$
- **b.**  $y 4 = \frac{5}{2}(x 1)$
- **c.**  $y + 4 = \frac{2}{5}(x + 1)$
- **d.**  $y 1 = \frac{5}{2}(x 4)$

**4.** The midpoint of AB is (3, 4). If the coordinates of B are (6, 6), what are the coordinates of A?

- **a.** (9, 10)
- **b.** (4.5, 5)
- c. (0, 2)
- **d.** (9, 10)

5. What is an equation of the line through (-4, 7) and perpendicular to

$$y = \frac{2}{3}x + 5?$$

**a.** 
$$y = \frac{3}{4}x + 10$$

**b.** 
$$y = -\frac{3}{2}x - \frac{3}{2}$$

c. 
$$y = -\frac{7}{4}x$$

**a.** 
$$y = \frac{3}{4}x + 10$$
 **b.**  $y = -\frac{3}{2}x - 5$  **c.**  $y = -\frac{7}{4}x$  **d.**  $y = -\frac{3}{2}x + 1$ 

6. What is an equation of the circle with center (3, 0) and radius 8?

**a.**  $x^2 + y^2 = 64$ 

- **b.**  $(x-3)^2 + y^2 = 64$
- c.  $(x + 3)^2 + y^2 = 8$
- **d.**  $(x-3)^2 + y^2 = 8$

7. Find an equation of the line through points (-3, 5) and (2, 8).

**a.** 5x + 3y = 16

**b.** 3x - 5y = -34

c. 5x - 3y = -30

**d.** 5x + 3y = 0

8. Three consecutive vertices of a parallelogram are (j, 5), (0, 0), and (7, 0). Which is the fourth vertex?

- **a.** (7, 5)
- **b.** (5, 7)
- c. (j + 7, 5) d. (j + 5, 7)

9. Points (2, 2) and (8, v) lie on a line with slope  $\frac{1}{2}$ . What is the value of v?

- **a.** -10
- b. -1
- c. 5

10. What is the *best* term for a triangle with vertices (1, -3), (6, 2), and (0, 4)?

a. isosceles triangle

b. equilateral triangle

c. right triangle

d. none of these

11. Which point is the intersection of lines 3x + 2y = 17 and x - 4y = 1?

- **a.** (1, 5)
- **b.** (5, 1)
- c. (-1, 5)
- **d.**  $\left(\frac{33}{5}, \frac{7}{5}\right)$

12.  $\triangle ABC$  is equilateral with vertices A(r, 0) and B(-r, 0). Which of the following could be the coordinates of point C?

- **a.**  $(r\sqrt{3}, 0)$
- **b.**  $(0, r\sqrt{3})$
- **c.** (0, r)
- **d.** (0, 2r)