

## Practice

**Parallel and Perpendicular Lines**

Determine whether the graphs of each pair of equations are parallel, perpendicular, or neither.

1.  $y = 3x + 4$   
 $y = 3x + 7$

2.  $y = -4x + 1$   
 $4y = x + 3$

3.  $y = 2x - 5$   
 $y = 5x - 5$

4.  $y = -\frac{1}{3}x + 2$   
 $y = 3x - 5$

5.  $y = \frac{3}{5}x - 3$   
 $5y = 3x - 10$

6.  $y = 4$   
 $4y = 6$

7.  $y = 7x + 2$   
 $x + 7y = 8$

8.  $y = \frac{5}{6}x - 6$   
 $x + 5y = 4$

9.  $y = -\frac{3}{8}x - 9$   
 $y = \frac{8}{3}x + 3$

Write an equation in slope-intercept form of the line that is parallel to the graph of each equation and passes through the given point.

10.  $y = 3x + 6$ ; (4, 7)

11.  $y = x - 4$ ; (-2, 3)

12.  $y = \frac{1}{2}x + 5$ ; (4, -5)

13.  $y + \frac{2}{3}x = 3$ ; (-6, 1)

14.  $y - \frac{2}{5}x = -5$ ; (5, 3)

15.  $y + 2x = 4$ ; (-1, 2)

Write an equation in slope-intercept form of the line that is perpendicular to the graph of each equation and passes through the given point.

16.  $y = -5x + 1$ ; (2, -1)

17.  $y = 2x - 3$ ; (-5, 3)

18.  $4x + 7y = 3$ ; (-4, -7)

19.  $3x - 4y = 2$ ; (6, 0)

20.  $y = -4x - 2$ ; (4, -4)

21.  $6x + 5y = -3$ ; (-6, 2)