

## 2.5 Practice - Parallel and Perpendicular Lines

Find the slope of a line parallel to each given line.

1)  $y = 2x + 4$

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

3)  $y = 4x - 5$

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

5)  $x - y = 4$

6)  $6x - 5y = 20$

7)  $7x + y = -2$

8)  $3x + 4y = -8$

Find the slope of a line perpendicular to each given line.

9)  $x = 3$

10)  $y = -\frac{1}{2}x - 1$

11)  $y = -\frac{1}{3}x$

12)  $y = \frac{4}{5}x$

13)  $x - 3y = -6$

14)  $3x - y = -3$

15)  $x + 2y = 8$

16)  $8x - 3y = -9$

Write the point-slope form of the equation of the line described.

17) through  $(2, 5)$ , parallel to  $x = 0$

18) through:  $(5, 2)$ , parallel to  $y = \frac{7}{5}x + 4$

19) through  $(3, 4)$ , parallel to  $y = \frac{9}{2}x - 5$

20) through:  $(1, -1)$ , parallel to  $y = -\frac{3}{4}x + 3$

21) through  $(2, 3)$ , parallel to  $y = \frac{7}{5}x + 4$

22) through:  $(-1, 3)$ , parallel to  $y = -3x - 1$

23) through:  $(4, 2)$ , parallel to  $x = 0$

24) through  $(1, 4)$ , parallel to  $y = \frac{7}{5}x + 2$

25) through:  $(1, -5)$ , perpendicular to  $-x + y = 1$

26) through:  $(1, -2)$ , perpendicular to  $-x + 2y = 2$

27) through  $(5, 2)$ , perpendicular to  $5x + y = -3$

- 28) through  $(1, 3)$ , perpendicular to  $-x + y = 1$   
 29) through  $(4, 2)$ , perpendicular to  $-4x + y = 0$   
 30) through  $(-3, -5)$ , perpendicular to  $3x + 7y = 0$   
 31) through  $(2, -2)$  perpendicular to  $3y - x = 0$   
 32) through  $(-2, 5)$  perpendicular to  $y - 2x = 0$

**Write the slope-intercept form of the equation of the line described.**

- 33) through  $(4, -3)$ , parallel to  $y = -2x$   
 34) through  $(-5, 2)$ , parallel to  $y = \frac{3}{5}x$   
 35) through  $(-3, 1)$ , parallel to  $y = -\frac{4}{3}x - 1$   
 36) through  $(-4, 0)$ , parallel to  $y = -\frac{5}{4}x + 4$   
 37) through  $(-4, -1)$ , parallel to  $y = -\frac{1}{2}x + 1$   
 38) through  $(2, 3)$ , parallel to  $y = \frac{5}{2}x - 1$   
 39) through  $(-2, -1)$ , parallel to  $y = -\frac{1}{2}x - 2$   
 40) through  $(-5, -4)$ , parallel to  $y = \frac{3}{5}x - 2$   
 41) through  $(4, 3)$ , perpendicular to  $x + y = -1$   
 42) through  $(-3, -5)$ , perpendicular to  $x + 2y = -4$   
 43) through  $(5, 2)$ , perpendicular to  $x = 0$   
 44) through  $(5, -1)$ , perpendicular to  $-5x + 2y = 10$   
 45) through  $(-2, 5)$ , perpendicular to  $-x + y = -2$   
 46) through  $(2, -3)$ , perpendicular to  $-2x + 5y = -10$   
 47) through  $(4, -3)$ , perpendicular to  $-x + 2y = -6$   
 48) through  $(-4, 1)$ , perpendicular to  $4x + 3y = -9$



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