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 $4x+3y=-9$