Extra Credit: Writing Equations of Lines

Write the point-slope form of the equation of the line through the given point with the given slope.

1) through: (−3, −2), slope = \( \frac{2}{3} \)

2) through: (−2, 2), slope = −\( \frac{1}{2} \)

3) through: (−4, 4), slope = \( \frac{1}{4} \)

4) through: (−2, 5), slope = −2

5) through: (2, 3), slope = 1

6) through: (−4, 1), slope = 1

7) through: (2, 4), slope = \( \frac{5}{2} \)

8) through: (−3, −2), slope = \( \frac{5}{3} \)

9) through: (−5, 2), slope = −\( \frac{4}{7} \)

10) through: (−5, −3), slope = \( \frac{3}{5} \)

11) through: (1, 4), slope = 7

12) through: (2, 2), slope = −\( \frac{1}{2} \)

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

13) through: (−2, 4), parallel to \( y = 2 \)

14) through: (0, −3), parallel to \( y = 7x \)

15) through: (5, 5), parallel to \( y = \frac{3}{5}x + 4 \)

16) through: (−3, −3), parallel to \( y = \frac{5}{8}x + 1 \)

17) through: (4, −3), parallel to \( y = −\frac{2}{9}x + 4 \)

18) through: (−5, 4), parallel to \( y = −\frac{7}{5}x - 4 \)

19) through: (−4, 3), parallel to \( y = −\frac{5}{4}x + 2 \)

20) through: (3, 4), parallel to \( y = \frac{5}{3}x + 4 \)

21) through: (2, 5), parallel to \( y = 2x \)

22) through: (0, −4), parallel to \( y = −\frac{7}{2}x + 5 \)

23) through: (4, 0), parallel to \( y = −\frac{3}{7}x - 3 \)

24) through: (−3, 5), perp. to \( y = \frac{1}{3}x + 5 \)

25) through: (4, −5), perp. to \( y = \frac{4}{3}x + 4 \)

26) through: (−3, −5), perp. to \( y = −\frac{3}{8}x - 1 \)

27) through: (−5, 5), perp. to \( y = x - 3 \)

28) through: (0, −3), perp. to \( y = \frac{3}{8}x + 5 \)

29) through: (1, 1), perp. to \( y = −\frac{1}{2}x + 5 \)

30) through: (−1, −2), perp. to \( y = −x + 4 \)

31) through: (−2, −2), perp. to \( y = −\frac{2}{5}x - 4 \)

32) through: (5, 5), perp. to \( y = −\frac{5}{3}x + 2 \)
33) through: \((-1, 3),\) perp. to \(y = \frac{1}{8}x - 1\)
34) through: \((-1, -3),\) perp. to \(y = -x + 3\)

**Write the slope-intercept form of the equation of each line given the slope and y-intercept.**

35) Slope = \(-\frac{7}{4}\), y-intercept = 2
36) Slope = 1, y-intercept = 2
37) Slope = -2, y-intercept = -4
38) Slope = -4, y-intercept = 5
39) Slope = 0, y-intercept = 2
40) Slope = -\(\frac{1}{3}\), y-intercept = 3
41) Slope = -\(\frac{1}{2}\), y-intercept = -4
42) Slope = \(\frac{3}{2}\), y-intercept = -1
43) Slope = 1, y-intercept = 4
44) Slope = 1, y-intercept = -4
45) Slope = -\(\frac{7}{3}\), y-intercept = -5

**Write the slope-intercept form of the equation of the line through the given point with the given slope.**

46) through: \((-2, 5),\) slope = \(-\frac{5}{2}\)
47) through: \((5, 0),\) slope = \(-\frac{5}{2}\)
48) through: \((-1, 0),\) slope = 2
49) through: \((1, 1),\) slope = \(\frac{4}{3}\)
50) through: \((4, -2),\) slope = 3
51) through: \((5, 3),\) slope = \(\frac{1}{2}\)
52) through: \((5, -3),\) slope = \(-\frac{7}{5}\)
53) through: \((-1, -4),\) slope = \(\frac{1}{2}\)
54) through: \((4, -4),\) slope = -2
55) through: \((-3, 1),\) slope = -\(\frac{2}{3}\)
56) through: \((-1, -1),\) slope = 6

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

57) through: \((3, -4),\) parallel to \(y = \frac{1}{4}x - 3\)
58) through: \((2, 2),\) parallel to \(y = -\frac{1}{2}x - 4\)
59) through: \((-2, -5),\) parallel to \(y = \frac{2}{5}x + 4\)
60) through: \((-2, -4),\) parallel to \(y = \frac{9}{2}x - 5\)
61) through: \((-2, -4),\) parallel to \(y = \frac{7}{2}x + 2\)
62) through: \((-3, 5),\) parallel to \(y = -\frac{2}{3}x - 2\)
63) through: \((2, 5),\) parallel to \(y = x - 5\)
64) through: \((1, 2),\) parallel to \(y = 5x + 3\)
65) through: \((5, -5)\), parallel to \(y = \frac{-4}{5}x + 2\)  
66) through: \((4, 1)\), parallel to \(y = \frac{1}{4}x - 4\)

67) through: \((3, 2)\), parallel to \(y = \frac{2}{3}x - 5\)  
68) through: \((-2, 1)\), perp. to \(y = -\frac{1}{4}x + 5\)

69) through: \((-5, 3)\), perp. to \(y = -3x + 2\)  
70) through: \((-3, -5)\), perp. to \(y = -\frac{2}{3}x + 5\)

71) through: \((5, 1)\), perp. to \(y = 5x - 3\)  
72) through: \((5, -3)\), perp. to \(y = \frac{5}{7}x - 1\)

73) through: \((2, -1)\), perp. to \(y = \frac{1}{3}x - 5\)  
74) through: \((-1, -1)\), perp. to \(y = -\frac{1}{4}x + 1\)

75) through: \((-3, -4)\), perp. to \(y = -\frac{3}{4}x - 1\)  
76) through: \((1, 3)\), perp. to \(y = x + 4\)

77) through: \((5, -5)\), perp. to \(y = \frac{5}{9}x - 3\)  
78) through: \((1, 1)\), perp. to \(y = \frac{1}{3}x - 3\)

**Write the slope-intercept form of the equation of the line through the given points.**

79) through: \((3, -1)\) and \((1, -2)\)  
80) through: \((0, 2)\) and \((0, 4)\)

81) through: \((0, -1)\) and \((4, 1)\)  
82) through: \((4, 5)\) and \((2, 2)\)

83) through: \((5, -1)\) and \((0, 5)\)  
84) through: \((2, -1)\) and \((5, 4)\)

85) through: \((0, -4)\) and \((-2, 4)\)  
86) through: \((2, 1)\) and \((2, 2)\)

87) through: \((-5, 5)\) and \((0, 0)\)  
88) through: \((4, 5)\) and \((-3, 4)\)

89) through: \((-1, 0)\) and \((0, -2)\)

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

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