Parallel Lines and Perpendicular Lines
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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) $8x - 3y = -9$

Answers

Parallel and Perpendicular Lines

1) 2

2) $-\frac{2}{3}$

3) 4

4) $-\frac{10}{3}$

5) 1

6) $\frac{6}{5}$

7) -7

8) $-\frac{3}{4}$

9) 0

10) 2

11) 3

12) $-\frac{5}{4}$

13) -3

14) $-\frac{1}{3}$

15) 2

16) $-\frac{3}{8}$

Parallel Lines and Perpendicular Lines
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Practice - Parallel and Perpendicular Lines

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 $5x + y = -3$

Answers

Parallel and Perpendicular Lines

17) $x = 2$

18) $y - 2 = \frac{7}{5}(x - 5)$

19) $y - 4 = \frac{9}{2}(x - 3)$

20) $y + 1 = -\frac{3}{4}(x - 1)$

21) $y - 3 = \frac{7}{5}(x - 2)$

22) $y - 3 = -3(x + 1)$

23) $x = 4$

24) $y - 4 = \frac{7}{5}(x - 1)$

25) $y + 5 = -(x - 1)$

26) $y + 2 = -2(x - 1)$

27) $y - 2 = \frac{1}{5}(x - 5)$

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Parallel and Perpendicular Lines

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 $y - 2x = 0$

Answers

Parallel and Perpendicular Lines

28) $y-3=-(x-1)$

29) $y-2=-\frac{1}{4}(x-4)$

30) $y+5=\frac{7}{3}(x+3)$

31) $y+2=-3(x-2)$

32) $y-5=-\frac{1}{2}(x+2)$

Parallel Lines and Perpendicular Lines
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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 $4x + 3y = -9$

Answers

Parallel and Perpendicular Lines

33) $y = -2x + 5$

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

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

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

37) $y = -\frac{1}{2}x - 3$

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

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

40) $y = \frac{3}{5}x - 1$

41) $y = x - 1$

42) $y = 2x + 1$

43) $y = 2$

44) $y = -\frac{2}{5}x + 1$

45) $y = -x + 3$

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

47) $y = -2x + 5$

48) $y = \frac{3}{4}x + 4$