

2.4 Practice - Point-Slope Form

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

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|--|---|
| 1) through $(2, 3)$, slope = undefined | 2) through $(1, 2)$, slope = undefined |
| 3) through $(2, 2)$, slope = $\frac{1}{2}$ | 4) through $(2, 1)$, slope = $-\frac{1}{2}$ |
| 5) through $(-1, -5)$, slope = 9 | 6) through $(2, -2)$, slope = -2 |
| 7) through $(-4, 1)$, slope = $\frac{3}{4}$ | 8) through $(4, -3)$, slope = -2 |
| 9) through $(0, -2)$, slope = -3 | 10) through $(-1, 1)$, slope = 4 |
| 11) through $(0, -5)$, slope = $-\frac{1}{4}$ | 12) through $(0, 2)$, slope = $-\frac{5}{4}$ |
| 13) through $(-5, -3)$, slope = $\frac{1}{5}$ | 14) through $(-1, -4)$, slope = $-\frac{2}{3}$ |
| 15) through $(-1, 4)$, slope = $-\frac{5}{4}$ | 16) through $(1, -4)$, slope = $-\frac{3}{2}$ |

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

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|--|--|
| 17) through: $(-1, -5)$, slope = 2 | 18) through: $(2, -2)$, slope = -2 |
| 19) through: $(5, -1)$, slope = $-\frac{3}{5}$ | 20) through: $(-2, -2)$, slope = $-\frac{2}{3}$ |
| 21) through: $(-4, 1)$, slope = $\frac{1}{2}$ | 22) through: $(4, -3)$, slope = $-\frac{7}{4}$ |
| 23) through: $(4, -2)$, slope = $-\frac{3}{2}$ | 24) through: $(-2, 0)$, slope = $-\frac{5}{2}$ |
| 25) through: $(-5, -3)$, slope = $-\frac{2}{5}$ | 26) through: $(3, 3)$, slope = $\frac{7}{3}$ |
| 27) through: $(2, -2)$, slope = 1 | 28) through: $(-4, -3)$, slope = 0 |
| 29) through: $(-3, 4)$, slope = undefined | 30) through: $(-2, -5)$, slope = 2 |
| 31) through: $(-4, 2)$, slope = $-\frac{1}{2}$ | 32) through: $(5, 3)$, slope = $\frac{6}{5}$ |

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

33) through: $(-4, 3)$ and $(-3, 1)$

34) through: $(1, 3)$ and $(-3, 3)$

35) through: $(5, 1)$ and $(-3, 0)$

36) through: $(-4, 5)$ and $(4, 4)$

37) through: $(-4, -2)$ and $(0, 4)$

38) through: $(-4, 1)$ and $(4, 4)$

39) through: $(3, 5)$ and $(-5, 3)$

40) through: $(-1, -4)$ and $(-5, 0)$

41) through: $(3, -3)$ and $(-4, 5)$

42) through: $(-1, -5)$ and $(-5, -4)$

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

43) through: $(-5, 1)$ and $(-1, -2)$

44) through: $(-5, -1)$ and $(5, -2)$

45) through: $(-5, 5)$ and $(2, -3)$

46) through: $(1, -1)$ and $(-5, -4)$

47) through: $(4, 1)$ and $(1, 4)$

48) through: $(0, 1)$ and $(-3, 0)$

49) through: $(0, 2)$ and $(5, -3)$

50) through: $(0, 2)$ and $(2, 4)$

51) through: $(0, 3)$ and $(-1, -1)$

52) through: $(-2, 0)$ and $(5, 3)$



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Answers - Point-Slope Form

1) $x = 2$

2) $x = 1$

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

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

5) $y + 5 = 9(x + 1)$

6) $y + 2 = -2(x - 2)$

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

8) $y + 3 = -2(x - 4)$

9) $y + 2 = -3x$

10) $y - 1 = 4(x + 1)$

11) $y + 5 = -\frac{1}{4}x$

12) $y - 2 = -\frac{5}{4}x$

13) $y + 3 = \frac{1}{5}(x + 5)$

14) $y + 4 = -\frac{2}{3}(x + 1)$

15) $y - 4 = -\frac{5}{4}(x + 1)$

16) $y + 4 = -\frac{3}{2}x(x - 1)$

17) $y = 2x - 3$

18) $y = -2x + 2$

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

20) $y = -\frac{2}{3}x - \frac{10}{3}$

21) $y = \frac{1}{2}x + 3$

22) $y = -\frac{7}{4}x + 4$

23) $y = -\frac{3}{2}x + 4$

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

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

26) $y = \frac{7}{3}x - 4$

27) $y = x - 4$

28) $y = -3$

29) $x = -3$

30) $y = 2x - 1$

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

32) $y = \frac{6}{5}x - 3$

33) $y - 3 = -2(x + 4)$

34) $y = 3$

35) $y - 1 = \frac{1}{8}(x - 5)$

36) $y - 5 = -\frac{1}{8}(x + 4)$

37) $y + 2 = \frac{3}{2}(x + 4)$

38) $y - 1 = \frac{3}{8}(x + 4)$

39) $y - 5 = \frac{1}{4}(x - 3)$

40) $y + 4 = -(x + 1)$

41) $y + 3 = -\frac{8}{7}(x - 3)$

42) $y + 5 = -\frac{1}{4}(x + 1)$

43) $y = -\frac{3}{4}x - \frac{11}{4}$

44) $y = -\frac{1}{10}x - \frac{3}{2}$

45) $y = -\frac{8}{7}x - \frac{5}{7}$

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

47) $y = -x + 5$

48) $y = \frac{1}{3}x + 1$

49) $y = -x + 2$

50) $y = x + 2$

51) $y = 4x + 3$

52) $y = \frac{3}{7}x + \frac{6}{7}$



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