

Practice and Problem Solving

Step-by-Step Solutions begin on page R20.
Extra Practice begins on page 969.

Example 1 p. 196 Write an equation in slope-intercept form of the line having the given slope and y -intercept or given points. Then graph the line.

13. $m: -5$, y -intercept: -2 14. $m: -7$, $b: -4$ 15. $m: 9$, $b: 2$

Example 2 p. 197 Write an equation in point-slope form of the line having the given slope that contains the given point. Then graph the line.

19. $m = 2$, $(3, 11)$ 20. $m = 4$, $(-4, 8)$ 21. $m = -7$, $(1, 9)$

Examples 3 and 4 pp. 197-198 Write an equation of the line through each pair of points in slope-intercept form.

25. $(-1, -4)$ and $(3, -4)$ 26. $(2, -1)$ and $(2, 6)$
27. $(-3, -2)$ and $(-3, 4)$ 28. $(0, 5)$ and $(3, 3)$

Example 5 p. 198 Write an equation in slope-intercept form for each line described. then graph to verify your answer.

37. passes through $(-7, -4)$, perpendicular to $y = \frac{1}{2}x + 9$
38. passes through $(-1, -10)$, parallel to $y = 7$
39. passes through $(6, 2)$, parallel to $y = -\frac{2}{3}x + 1$
40. passes through $(-2, 2)$, perpendicular to $y = -5x - 8$

Determine whether the lines are *parallel*, *perpendicular*, or *neither*.

46. $y = 2x + 4$, $y = 2x - 10$ 47. $y = -\frac{1}{2}x - 12$, $y = 2x + 7$
48. $y - 4 = 3(x + 5)$, $y + 3 = -\frac{1}{3}(x + 1)$ 49. $y - 3 = 6(x + 2)$, $y + 3 = -\frac{1}{3}(x - 4)$

H.O.T. Problems

Use Higher-Order Thinking Skills

55. **CHALLENGE** Find the value of n so that the line perpendicular to the line with the equation $-2y + 4 = 6x + 8$ passes through the points at $(n, -4)$ and $(2, -8)$.

59. **WRITING IN MATH** When is it easier to use the point-slope form to write an equation of a line and when is it easier to use the slope-intercept form?

You will need to use graph paper for this assignment.
* Use straight edges to create all graphed lines.