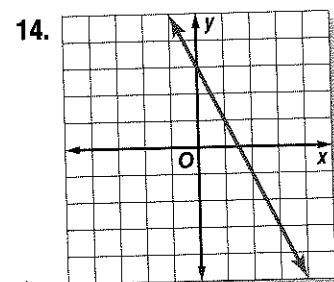
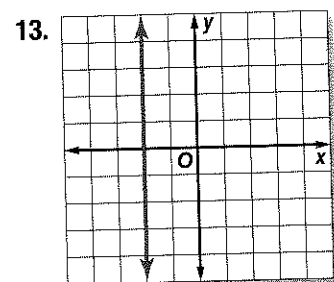
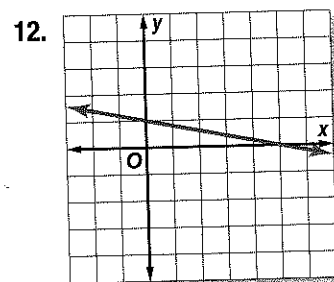
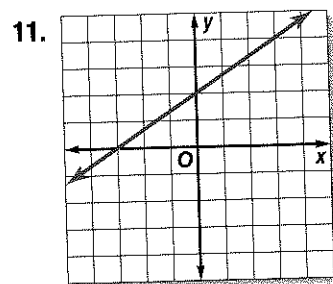
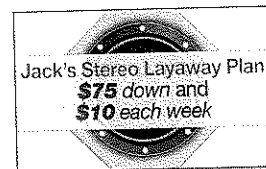


Example 4 Write an equation in slope-intercept form for each graph shown.



Example 5

- 15. FINANCIAL LITERACY** Rondell is buying a new stereo system for his car using a layaway plan.
- Write an equation for the total amount S that he has paid after w weeks.
 - Graph the equation.
 - Find out how much Rondell will have paid after 8 weeks.



- 16. CCSS REASONING** Ana is driving from her home in Miami, Florida, to her grandmother's house in New York City. On the first day, she will travel 240 miles to Orlando, Florida, to pick up her cousin. Then they will travel 350 miles each day.
- Write an equation for the total number of miles m that Ana has traveled after d days.
 - Graph the equation.
 - How long will the drive take if the total length of the trip is 1343 miles?

Practice and Problem Solving

Extra Practice is on page R4.

Example 1 Write an equation of a line in slope-intercept form with the given slope and y -intercept. Then graph the equation.

17. slope: 5, y -intercept: 8
19. slope: -4 , y -intercept: 6
21. slope: 3, y -intercept: -4

18. slope: 3, y -intercept: 10
20. slope: -2 , y -intercept: 8
22. slope: 4, y -intercept: -6

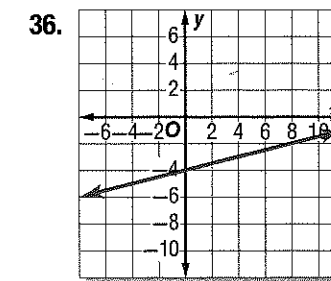
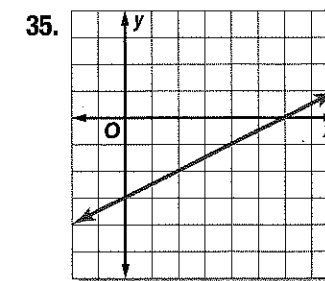
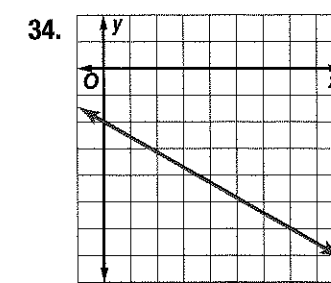
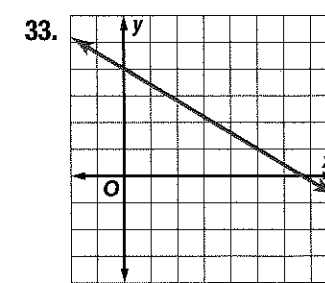
Examples 2–3 Graph each equation.

23. $-3x + y = 6$
25. $-2x + y = -4$
27. $5x + 2y = 8$
29. $y = 7$
31. $21 = 7y$

24. $-5x + y = 1$
26. $y = 7x - 7$
28. $4x + 9y = 27$
30. $y = -\frac{2}{3}$
32. $3y - 6 = 2x$

Example 4

Write an equation in slope-intercept form for each graph shown.



Example 5

- 37. MANATEES** In 1991, 1267 manatees inhabited Florida's waters. The manatee population has increased at a rate of 123 manatees per year.
- Write an equation for the manatee population, P , t years since 1991.
 - Graph this equation.
 - In 2006, the manatee was removed from Florida's endangered species list. What was the manatee population in 2006?

Write an equation of a line in slope-intercept form with the given slope and y -intercept.

38. slope: $\frac{1}{2}$, y -intercept: -3
39. slope: $\frac{2}{3}$, y -intercept: -5
40. slope: $-\frac{5}{6}$, y -intercept: 5
41. slope: $-\frac{3}{7}$, y -intercept: 2
42. slope: 1, y -intercept: 4
43. slope: 0, y -intercept: 5

Graph each equation.

44. $y = \frac{3}{4}x - 2$
45. $y = \frac{5}{3}x + 4$
46. $3x + 8y = 32$
47. $5x - 6y = 36$
48. $-4x + \frac{1}{2}y = -1$
49. $3x - \frac{1}{4}y = 2$

- 50. TRAVEL** A rental company charges \$8 per hour for a mountain bike plus a \$5 fee for a helmet.
- Write an equation in slope-intercept form for the total rental cost C for a helmet and a bicycle for t hours.
 - Graph the equation.
 - What would the cost be for 2 helmets and 2 bicycles for 8 hours?

- 51. CCSS REASONING** For Illinois residents, the average tuition at Chicago State University is \$157 per credit hour. Fees cost \$218 per year.
- Write an equation in slope-intercept form for the tuition T for c credit hours.
 - Find the cost for a student who is taking 32 credit hours.

Check Your Understanding

Step-by-Step Solutions begin on page R13.



Example 1

Write an equation of the line that passes through the given point and has the given slope.

1. $(3, -3)$, slope 3
2. $(2, 4)$, slope 2
3. $(1, 5)$, slope -1
4. $(-4, 6)$, slope -2

Example 2

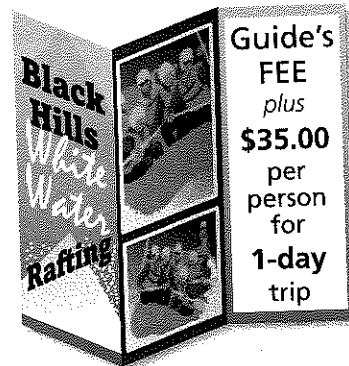
Write an equation of the line that passes through each pair of points.

5. $(4, -3)$, $(2, 3)$
6. $(-7, -3)$, $(-3, 5)$
7. $(-1, 3)$, $(0, 8)$
8. $(-2, 6)$, $(0, 0)$

Examples 3, 4

9. WHITEWATER RAFTING Ten people from a local youth group went to Black Hills Whitewater Rafting Tour Company for a one-day rafting trip. The group paid \$425.

- a. Write an equation in slope-intercept form to find the total cost C for p people.
- b. How much would it cost for 15 people?



Practice and Problem Solving

Extra Practice is on page R4.

Example 1

Write an equation of the line that passes through the given point and has the given slope.

10. $(3, 1)$, slope 2
11. $(-1, 4)$, slope -1
12. $(1, 0)$, slope 1
13. $(7, 1)$, slope 8
14. $(2, 5)$, slope -2
15. $(2, 6)$, slope 2

Example 2

Write an equation of the line that passes through each pair of points.

16. $(9, -2)$, $(4, 3)$
17. $(-2, 5)$, $(5, -2)$
18. $(-5, 3)$, $(0, -7)$
19. $(3, 5)$, $(2, -2)$
20. $(-1, -3)$, $(-2, 3)$
21. $(-2, -4)$, $(2, 4)$

Examples 3, 4

22. CCSS MODELING Greg is driving a remote control car at a constant speed. He starts the timer when the car is 5 feet away. After 2 seconds the car is 35 feet away.

- a. Write a linear equation to find the distance d of the car from Greg.
- b. Estimate the distance the car has traveled after 10 seconds.

23. ZOOS Refer to the beginning of the lesson.

- a. Write a linear equation to find the attendance (in millions) y after x years. Let x be the number of years since 2000.
- b. Estimate the zoo's attendance in 2020.

24. BOOKS In 1904, a dictionary cost 30¢. Since then the cost of a dictionary has risen an average of 6¢ per year.

- a. Write a linear equation to find the cost C of a dictionary y years after 1904.
- b. If this trend continues, what will the cost of a dictionary be in 2020?

Write an equation of the line that passes through the given point and has the given slope.

25. $(4, 2)$, slope $\frac{1}{2}$
26. $(3, -2)$, slope $\frac{1}{3}$
27. $(6, 4)$, slope $-\frac{3}{4}$
28. $(2, -3)$, slope $\frac{2}{3}$
29. $(2, -2)$, slope $\frac{2}{7}$
30. $(-4, -2)$, slope $-\frac{3}{5}$

