Find the *x*-intercept and *y*-intercept of each line. Then graph the equation.

7. $3x + y = -21$ **8.** $4x - 5y = 20$ **9.** $3x + 2y = 12$

10. $3x - 2y = 12$ **11.** $5x + 8y = 20$ **12.** $3x + 4y = -18$

Find the slope and *y*-intercept of each line. Plot the *y*-intercept. Then, using the slope, plot one more point. Finally, graph the line.

13. $y = 2x - 3$ **14.** $y = 2x + 3$ **15.** $y = -4x$

16. $y = \frac{3}{4}x + 1$ **17.** $y = -\frac{2}{3}x - 4$ **18.** $y = \frac{5}{3}x - 2$

Find the slope and *y*-intercept of each line.

Example $x + 3y = -6$

Solution Write the equation in slope-intercept form.

$$3y = -x - 6$$

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

The slope is $-\frac{1}{3}$. The *y*-intercept is -2.

19. $4x + y = 10$ **20.** $2x - y = 5$ **21.** $5x - 2y = 10$

22. $3x + 4y = 12$ **23.** $x - 4y = 6$ **24.** $4x + 3y = 8$

Solve each pair of equations algebraically. Then draw the graphs of the equations and label their intersection point.

25. $x + y = 3$, $x - y = -1$ **26.** $2x + y = 7$, $3x + y = 9$ **27.** $x + 2y = 10$, $3x - 2y = 6$

28. $3x + 2y = -30$, $y = x$ **29.** $4x + 5y = -7$, $2x - 3y = 13$ **30.** $3x + 2y = 8$, $-x + 3y = 12$

B

31. **a.** Find the slopes of the lines $6x + 3y = 10$ and $y = -2x + 5$.
b. Do the lines intersect?
c. What happens when you solve these equations algebraically?

32. Give a geometric reason and an algebraic reason why the lines $y = 3x - 5$ and $y = 3x + 5$ do not intersect.

33. **a.** Find the slopes of the lines $2x - y = 7$ and $x + 2y = 4$.
b. What can you conclude about the lines? State the theorem that supports your answer.

34. **a.** On the same axes, graph
$y = -2$, $x = -3$, and $2x + 3y = 6$.
b. Find the coordinates of the three points where the lines intersect.
c. Find the area of the triangle determined by the three lines.