

USING INTERCEPTS Draw the line that has the given intercepts.

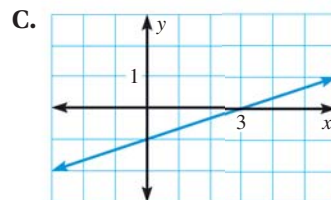
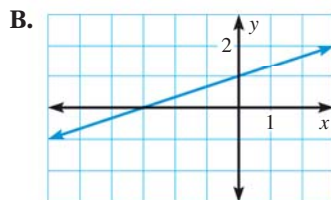
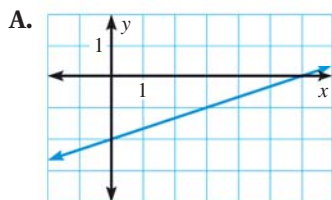
31. x -intercept: 3
 y -intercept: 5
32. x -intercept: -2
 y -intercept: 4
33. x -intercept: -5
 y -intercept: 6
34. x -intercept: 9
 y -intercept: -1
35. x -intercept: -8
 y -intercept: -11
36. x -intercept: -2
 y -intercept: -6

37. **TEXAS TAKS REASONING** The x -intercept of the graph of $Ax + 5y = 20$ is 2. What is the value of A ?

- (A) 2 (B) 5 (C) 7.5 (D) 10

MATCHING EQUATIONS WITH GRAPHS Match the equation with its graph.

38. $2x - 6y = 6$ 39. $2x - 6y = -6$ 40. $2x - 6y = 12$



41. **WRITING** Is it possible for a line *not* to have an x -intercept? Is it possible for a line *not* to have a y -intercept? *Explain.*
42. **REASONING** Consider the equation $3x + 5y = k$. What values could k have so that the x -intercept and the y -intercept of the equation's graph would both be integers? *Explain.*
43. **CHALLENGE** If $a \neq 0$, find the intercepts of the graph of $y = ax + b$ in terms of a and b .

PROBLEM SOLVING

EXAMPLES

4 and 5

on pp. 227–228
for Exs. 44–47

44. **MULTIPLE REPRESENTATIONS** The perimeter of a rectangular park is 72 feet. Let x be the park's width (in feet) and let y be its length (in feet).
- a. **Writing an Equation** Write an equation for the perimeter.
- b. **Drawing a Graph** Find the intercepts of the graph of the equation you wrote. Then graph the equation.

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45. **RECYCLING** In one state, small bottles have a refund value of \$.04 each, and large bottles have a refund value of \$.08 each. Your friend returns both small and large bottles and receives \$.56. This situation is given by $4x + 8y = 56$ where x is the number of small bottles and y is the number of large bottles.
- a. Find the intercepts of the graph of the equation. Graph the equation.
- b. Give three possibilities for the number of each size bottle your friend could have returned.

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