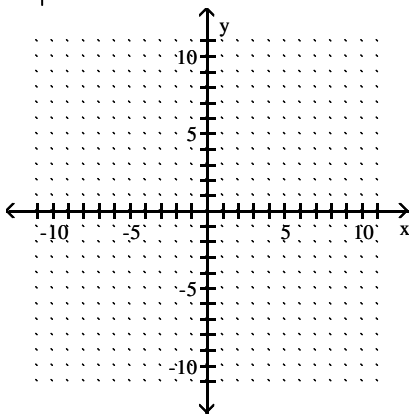
Math 095 Review Unit 2

Find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

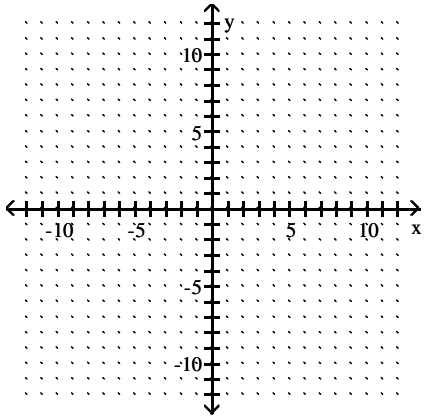
1) $y = x + 2$

x	y
4	
−6	
0	



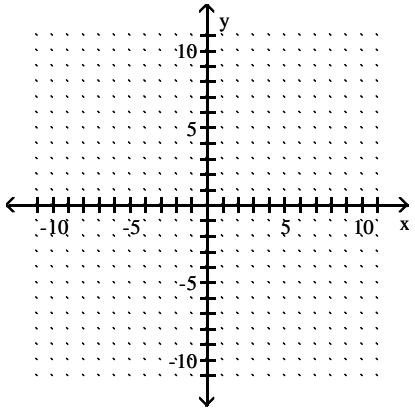
2) $7x + 3y = 0$

x	y
−3	
0	
3	

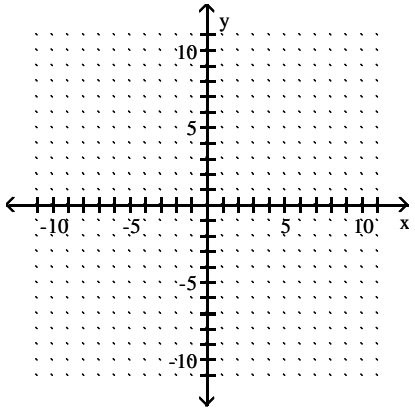


Graph the linear equation.

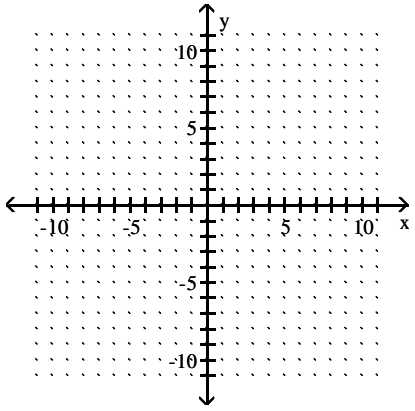
3) $-x = -8y + 9$



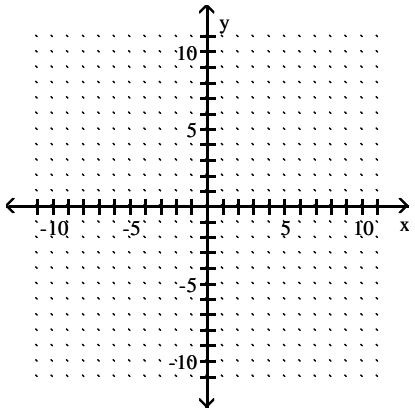
4) $2x = y - 7$



5) $y = 1$



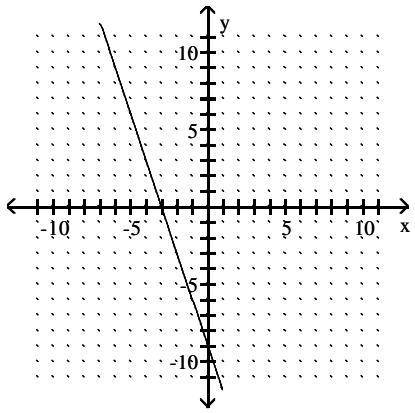
6) x = 5



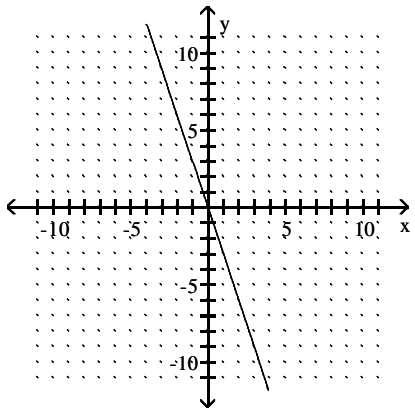
Match the graph with its equation.

7) y = –3x + 9

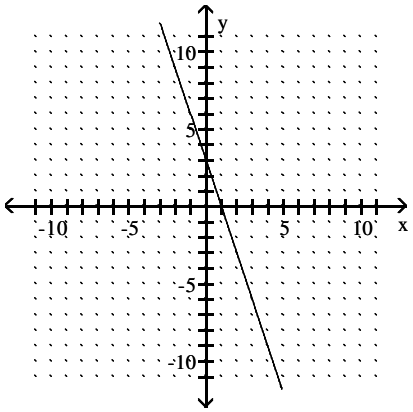
A)



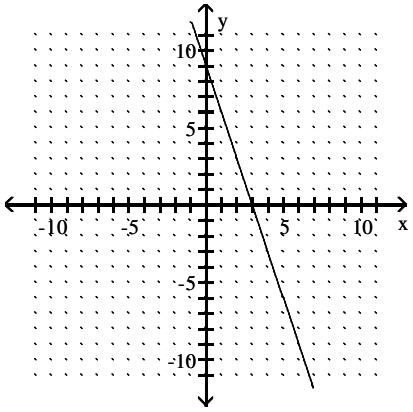
B)



C)

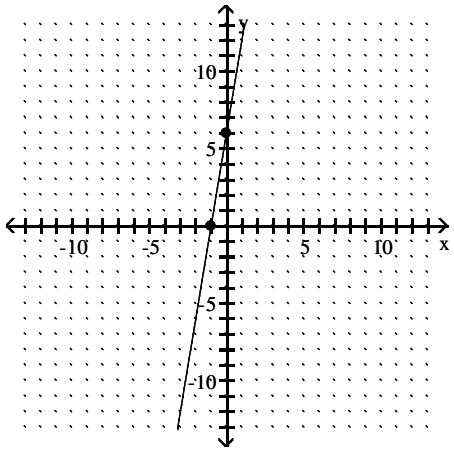


D)

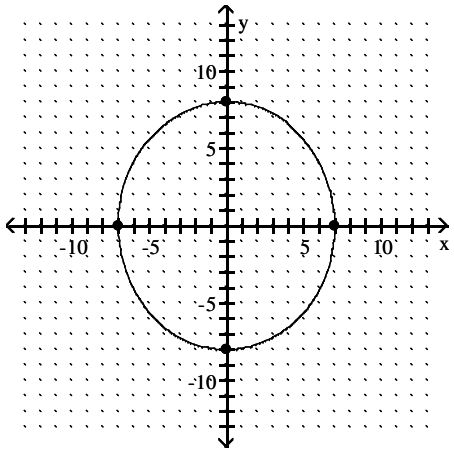


Identify the intercepts.

8)

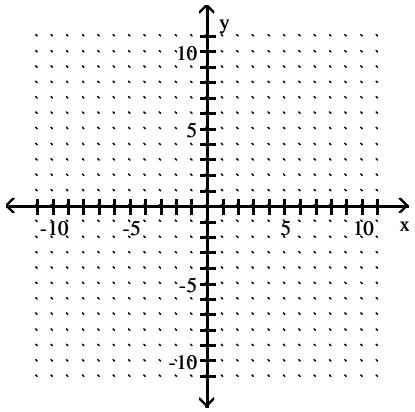


9)

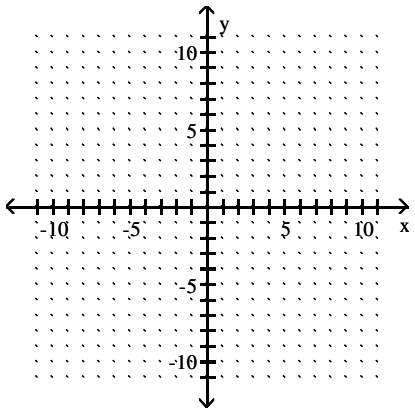


Graph the linear equation by finding and plotting its intercepts.

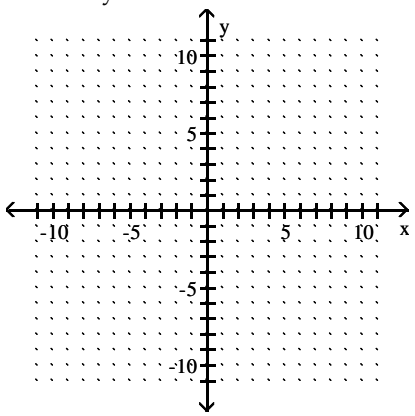
10) $x + y = 3$



11) $-x + 4y = 8$

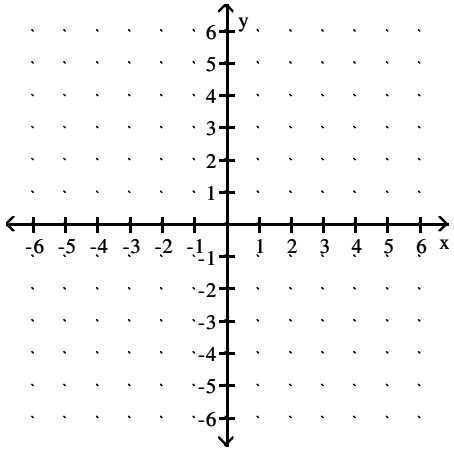


12) $-4x - 16y = 16$

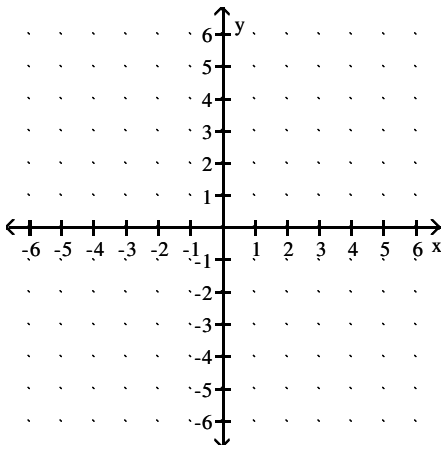


Graph the linear equation.

13) $y = 5$

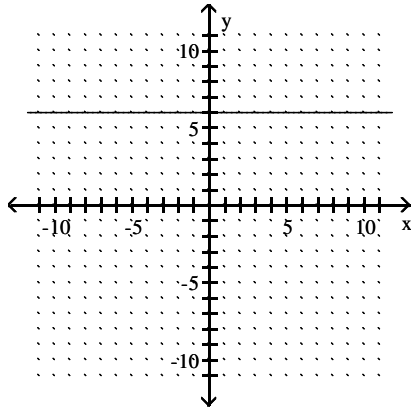


14) $x + 2 = 0$



Match the graph with its equation.

15)



A) $y = -6$
B) $x = 6$
C) $y = 6$
D) $y = 3x + 6$

Find the slope of the line that passes through the given points.

16) (9, 1) and (5, 8)

17) (3, 6) and (−18, −7)

18) (4, −2) and (4, 1)

Find the slope of the line.

19) $y = 5x + 3$

20) $y = -0.3x + 9.7$

21) $11x + y = 9$

22) $x = -3y$

23) $y = 9$

24) $x = -2$

Determine whether the pair of lines is parallel, perpendicular, or neither.

25) $y = -5x + 3$
$y = 5x - 3$

26) $y = 4x - 4$
$x - 4y = 5$

27) $3x - 6y = 1$
$18x + 9y = -13$

28) $9x + 3y = 12$
$21x + 7y = 30$

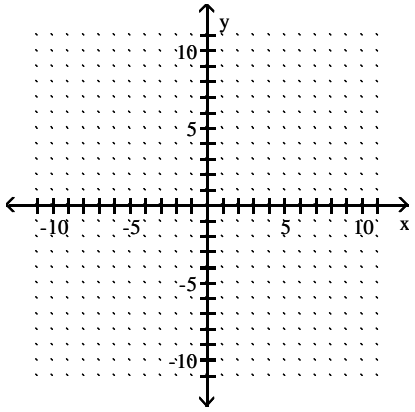
Write an equation of the line with the given slope, m, and y –intercept (0, b).

29) $m = 2, b = -5$

30) $m = \frac{1}{2}, b = 4$

Use the slope–intercept form to graph the equation.

31) $y = 2x + 4$



Find an equation of the line with the given slope that passes through the given point. Write the equation in the form Ax + By = C.

32) $m = 3$; $(4, 7)$

33) $m = \frac{1}{5}$; $(-3, 7)$

Find an equation of the line through the pair of points. Write the equation in the form Ax + By = C.

34) $(9, -8)$ and $(0, 3)$

Find an equation of the line.

35) Vertical line through $(9, 8)$

36) Horizontal line through $(3, -9)$

37) Horizontal line through $\left(\frac{1}{4}, 0\right)$

38) Vertical line through $\left(0, -\frac{1}{4}\right)$

Find the domain and the range of the relation.

39) $\{(8, 1), (-10, 0), (-2, -2), (12, -10)\}$

40) {(8, 5), (−7, 5), (−5, 5)}

Determine whether the relation is also a function.

41) {(−3, 7), (1, 8), (4, −9), (8, −9), (12, −6)}

42) {(−6, 3), (−2, 7), (−1, −6), (−1, −9)}

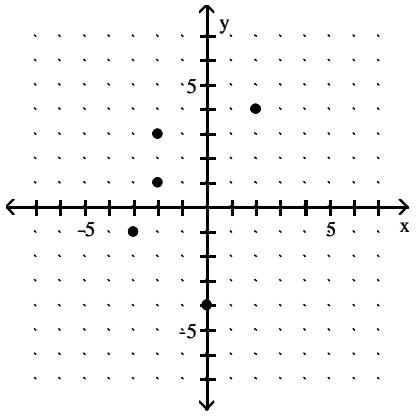
Decide whether the equation describes a function.

43) $y = 4x + 5$

44) $x + 5y = 6$

Determine whether the graph is the graph of a function.

45)



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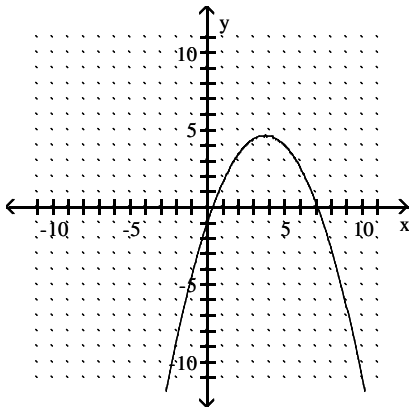

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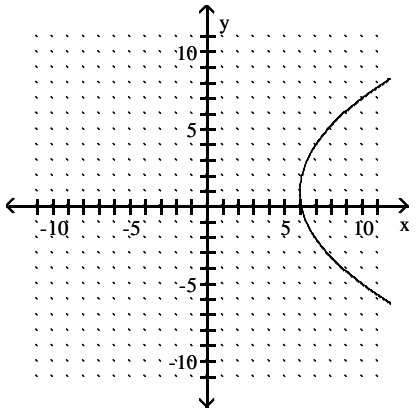


Evaluate the function.

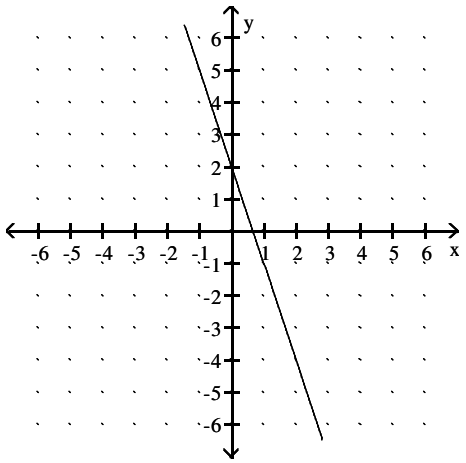
48) Find f(1) when $f(x) = x^2 - 2x - 3$.

49) Find f(0) when $f(x) = x^2 + 5x - 6$.

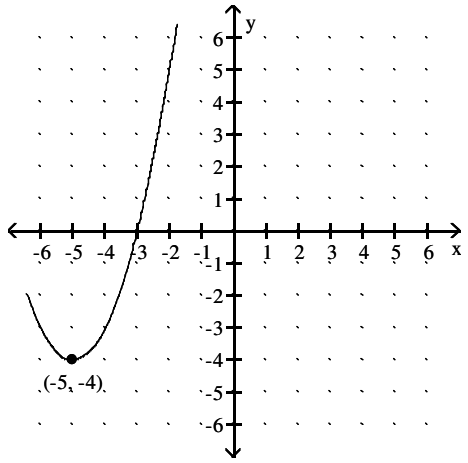
50) Find f(4) when $f(x) = |x - 3|$

Find the domain and range of the function graphed.

51)



52)



Determine whether the ordered pair is a solution of the system of linear equations.

53) (–6, –3);

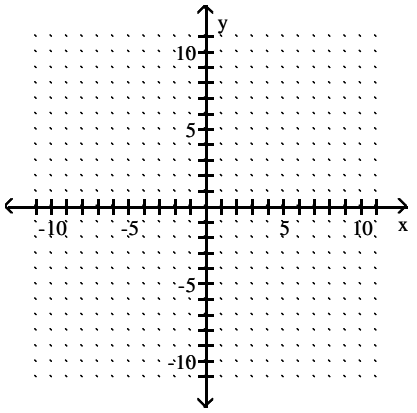
$$\begin{cases} x + y = -9 \\ x - y = -3 \end{cases}$$

54) (2, 5);

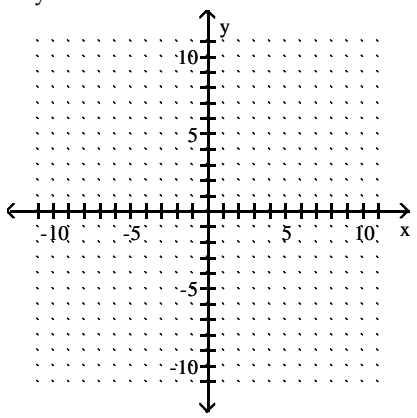
$$\begin{cases} x + y = 3 \\ x - y = -7 \end{cases}$$

Solve the system of equations by graphing.

55) $\begin{cases} y = x - 7 \\ y = 2x - 8 \end{cases}$



56) $\begin{cases} 2x + y = 2 \\ 3x + y = 1 \end{cases}$



Solve the system of equations by the substitution method.

57) $\begin{cases} x + y = 8 \\ y = -5x \end{cases}$

58) $\begin{cases} -3x - 2y = -126 \\ x = 4y \end{cases}$

59) $\begin{cases} x + 5y = -21 \\ -6x + 4y = -10 \end{cases}$

Solve the system of equations by the addition method.

60) $\begin{cases} x + y = -1 \\ x - y = 9 \end{cases}$

61) $\begin{cases} x + 3y = 11 \\ -6x + 2y = -6 \end{cases}$

62) $\begin{cases} -2x + 5y = -33 \\ -7x + 3y = -43 \end{cases}$

63) $\begin{cases} 3x - 9y = 7 \\ 6x - 18y = 21 \end{cases}$

64) $\begin{cases} -2x + 2y = -5 \\ 4x - 4y = 10 \end{cases}$

Solve the system.

65) $\begin{cases} x + y + z = -2 \\ x - y + 5z = 24 \\ 2x + y + z = -6 \end{cases}$

66)

$$\begin{cases} x + 2y + 5z = 35 \\ 4y + 4z = 36 \\ z = 4 \end{cases}$$

67)

$$\begin{cases} x + y = -2 \\ 2x + 4y - 4z = 20 \\ x - z = 1 \end{cases}$$

Write a system of equations in x and y describing the situation. Do not solve the system.

68) One number is 5 more than another number. If you add 8 to 2 times the first number, the result is 3 times the second number.

Solve.

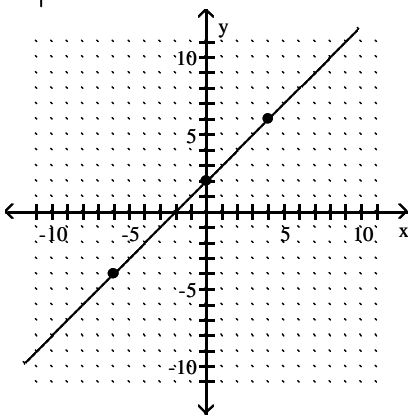
69) The sum of two numbers is –5. Three times the first number equals 4 times the second number. Find the two numbers.

70) Devon purchased tickets to an air show for 9 adults and 2 children. The total cost was $252. The cost of a child's ticket was $6 less than the cost of an adult's ticket. Find the price of an adult's ticket and a child's ticket.

71) The three angles in a triangle always add up to 180°. If one angle in a triangle is 110° and the second is 4 times the third, what are the three angles?

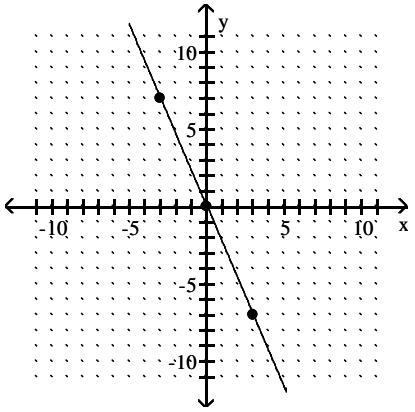
1)

x	y
4	6
−6	−4
0	2



2)

x	y
−3	7
0	0
3	−7



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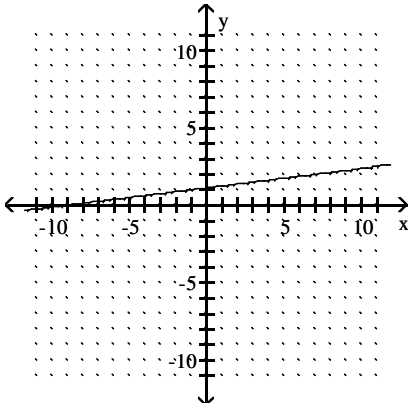

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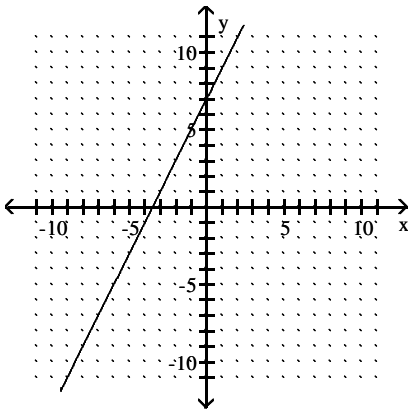

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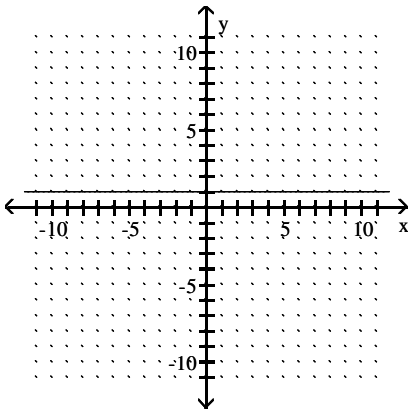

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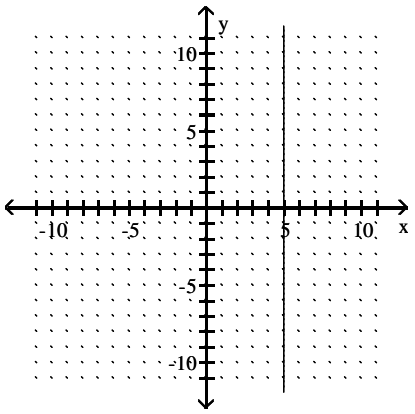
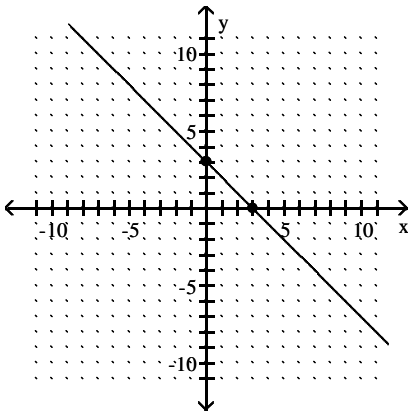


7) D

8) (−1, 0), (0, 6)

9) (7, 0), (−7, 0), (0, 8), (0, −8)

10)



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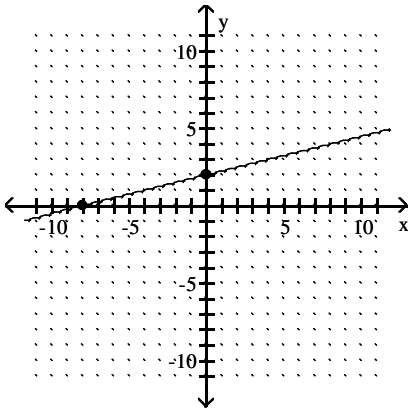

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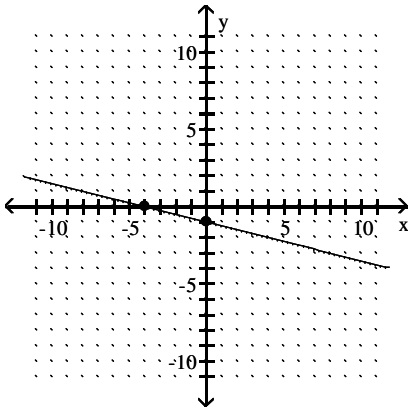

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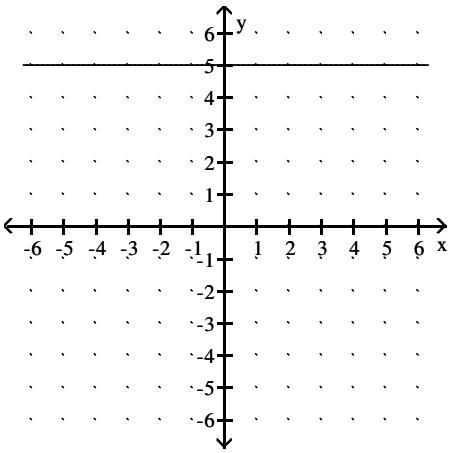

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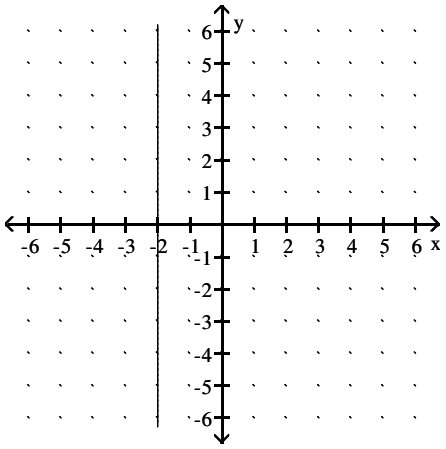


15) C

16) $-\frac{7}{4}$

17) $\frac{13}{21}$

18) undefined

19) m = 5

20) m = −0.3

21) m = −11

22) $m = -\frac{1}{3}$

23) m = 0

24) undefined slope

25) neither

26) neither

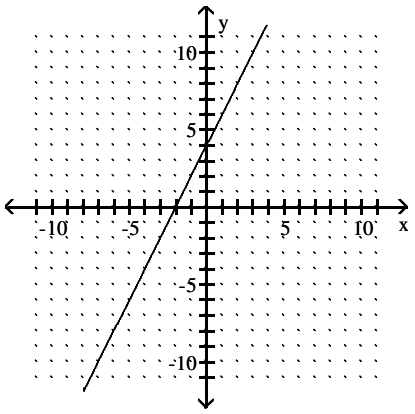
27) perpendicular

28) parallel

29) y = 2x − 5

30) $y = \frac{1}{2}x + 4$

31)



32) $3x - y = 5$
33) $x - 5y = -38$
34) $11x + 9y = 27$
35) $x = 9$
36) $y = -9$
37) $y = 0$
38) $x = 0$
39) domain: {–10, –2, 8, 12} ; range: {–10, –2, 0, 1}
40) domain: {–7, –5, 8} ; range: {5}
41) yes
42) no
43) yes
44) yes
45) no
46) yes
47) no
48) –4
49) –6
50) 1
51) domain: $(-\infty, \infty)$; range: $(-\infty, \infty)$
52) domain: $(-\infty, \infty)$; range: $[-4, \infty)$
53) Yes
54) No
55) (1, –6)
56) (–1, 4)
57) (–2, 10)
58) (36, 9)
59) (–1, –4)
60) (4, –5)
61) (2, 3)
62) (4, –5)
63) no solution
64) infinite number of solutions
65) (–4, –3, 5)
66) (5, 5, 4)
67) (–4, 2, –5)

68) $\begin{cases} x - y = 5 \\ 2x - 3y = -8 \end{cases}$

69) $-\frac{20}{7}$ and $-\frac{15}{7}$

70) adult's ticket: $24; child's ticket: $18

71) 110°, 56°, 14°