

Summer Packet

Evaluate each using the values given.

1) $h - |j|$; use $h = -5$, and $j = -1$

2) $q - (r + q)$; use $q = 4$, and $r = 3$

3) $p + n^2$; use $n = \frac{4}{3}$, and $p = 1$

4) $|yz|$; use $y = \frac{1}{3}$, and $z = 2$

Simplify each expression.

5) $3v + v$

6) $5 + 7v + 6$

7) $-\frac{5}{2}x + \frac{31}{9}x$

8) $\frac{25}{8}x + \frac{7}{5} + \frac{5}{2}x$

9) $-5(-8v - 6) + 2$

10) $-9 - (6v + 1)$

11) $-7(-9r + 1) - 3(-r - 7)$

12) $-(6n - 1) - 10(2n - 5)$

13) $-2k - \frac{1}{2}\left(\frac{5}{3}k + \frac{9}{7}\right)$

Solve each equation.

14) $-17 = n - 7$

15) $-13p = 195$

16) $-18 = k - 3$

17) $x - \frac{5}{2} = -\frac{175}{8}$

18) $-\frac{372}{55} = -\frac{12}{11}n$

19) $6(1 + 8x) - 6 = 144$

20) $-3(1 + 6x) = 87$

21) $4(m - 1) - 5m = 28 + 3m$

22) $-5(p + 1) = -17 - 2p$

23) $-1 - (1 - 7x) = 7(x + 1)$

24) $6(-2n + 5) = 2(-1 - 4n)$

25) $-\frac{7}{2}\left(-6a - \frac{14}{5}\right) = \frac{833}{10}$

$$26) \frac{543}{7} = 6\left(-\frac{3}{2}k + \frac{17}{7}\right)$$

Solve each proportion.

$$27) \frac{4}{k} = \frac{6}{3}$$

$$28) \frac{k+6}{2} = \frac{4}{9}$$

$$29) \frac{x-10}{3} = \frac{3}{6}$$

$$30) \frac{n}{n-4} = \frac{5}{6}$$

$$31) \frac{6}{7} = \frac{r}{r+6}$$

$$32) \frac{10}{n-6} = \frac{9}{n+1}$$

Find each product.

$$33) (3x+6)(8x-6)$$

$$34) (8r+8)(3r+1)$$

$$35) (3x+7)(-3x+4)$$

$$36) (-3n-7)(8n-5)$$

Factor each completely.

37) $v^2 - 10v$

38) $x^2 - 9x - 10$

39) $3x^2 - 13x - 10$

40) $5k^2 - 58k + 80$

Solve each equation by factoring.

41) $n^2 - 10n + 21 = 0$

42) $r^2 + 3r - 4 = 0$

43) $n^2 + 8n = -12$

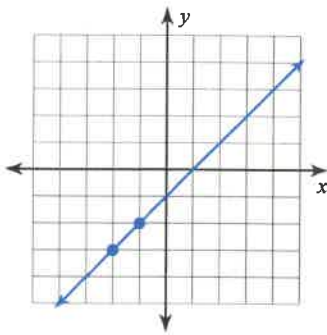
44) $a^2 - 8 = -7a$

45) $x^2 + 4x + 2 = -1$

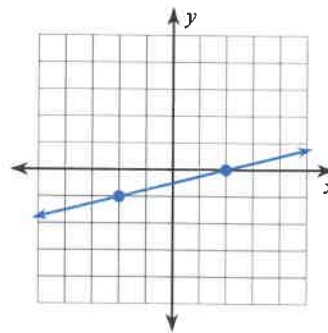
46) $-6x^2 + x - 48 = -6 - 7x^2$

Find the slope of each line.

47)



48)



Find the slope of the line through each pair of points.

49) $(-5, 20), (7, 9)$

50) $(7, 17), (8, 3)$

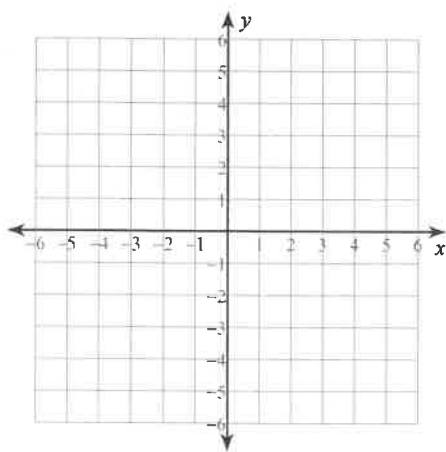
Find the slope of each line.

51) $y = -\frac{2}{5}x + 3$

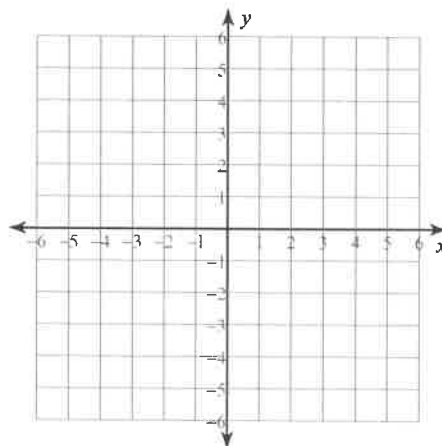
52) $y = -3x - 5$

Sketch the graph of each line.

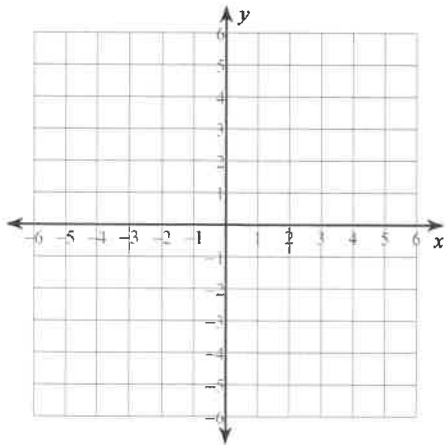
53) $y = x + 4$



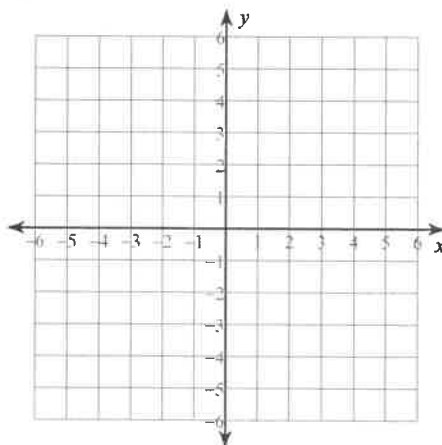
54) $y = -\frac{1}{2}x + 2$



55) $8x - y = -4$

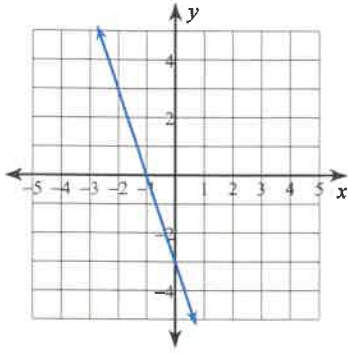


56) $y = 5$

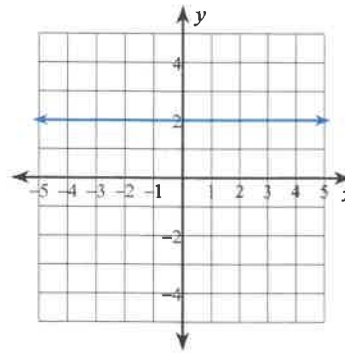


Write the slope-intercept form of the equation of each line.

57)



58)



Write the slope-intercept form of the equation of each line given the slope and y-intercept.

59) Slope = -4 , y-intercept = 0

60) Slope = -3 , y-intercept = 2

Write the slope-intercept form of the equation of the line through the given points.

61) through: $(-2, 2)$ and $(-5, 3)$

62) through: $(1, 4)$ and $(3, -1)$

Write the slope-intercept form of the equation of the line described.

63) through: $(1, -4)$, parallel to $y = -5$

64) through: $(2, 1)$, perp. to $y = -\frac{1}{2}x - 3$

Write the slope-intercept form of the equation of each line.

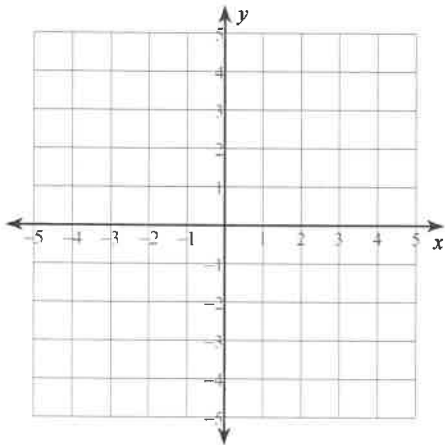
65) $12x + 7y = 49$

66) $2x - y = 0$

Solve each system by graphing.

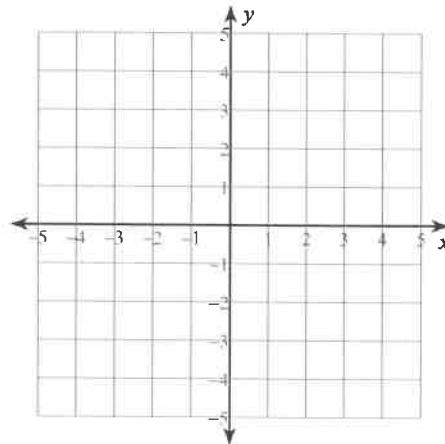
67) $y = 2x - 2$

$$y = \frac{1}{2}x + 1$$



68) $3x - y = 4$

$$x + 2y = 6$$



Solve each system by substitution or elimination.

69) $x + y = -4$

$$7x - y = -4$$

70) $x + 3y = 6$

$$x - y = 2$$

71) $11x + 8y = 40$

$$x - 4y = 32$$

72) $2x - y = 7$

$$10x + 3y = 27$$

Answers to Summer Packet

1) -6

2) -3

3) $\frac{25}{9}$

4) $\frac{2}{3}$

5) $4v$

6) $11 + 7v$

7) $\frac{17}{18}x$

8) $\frac{45}{8}x + \frac{7}{5}$

9) $40v + 32$

10) $-10 - 6v$

11) $66r + 14$

12) $-26n + 51$

13) $-\frac{17}{6}k - \frac{9}{14}$

14) $\{-10\}$

15) $\{-15\}$

16) $\{-15\}$

17) $\left\{-\frac{155}{8}\right\}$

18) $\left\{\frac{31}{5}\right\}$

19) $\{3\}$

20) $\{-5\}$

21) $\{-8\}$

22) $\{4\}$

23) No solution.

24) $\{8\}$

25) $\left\{\frac{7}{2}\right\}$

26) $\{-7\}$

27) $\{2\}$

28) $\left\{-\frac{46}{9}\right\}$

29) $\left\{\frac{23}{2}\right\}$

30) $\{-20\}$

31) $\{36\}$

32) $\{-64\}$

33) $24x^2 + 30x - 36$

34) $24r^2 + 32r + 8$

35) $-9x^2 - 9x + 28$

36) $-24n^2 - 41n + 35$

37) $v(v - 10)$

38) $(x - 10)(x + 1)$

39) $(3x + 2)(x - 5)$

40) $(5k - 8)(k - 10)$

41) $\{7, 3\}$

42) $\{-4, 1\}$

43) $\{-6, -2\}$

44) $\{1, -8\}$

45) $\{-3, -1\}$

46) $\{6, -7\}$

47) 1

48) $\frac{1}{4}$

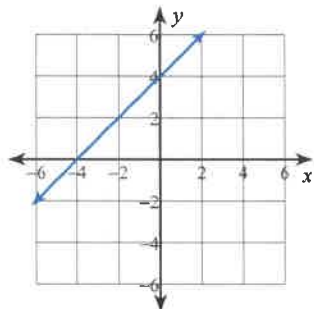
49) $-\frac{11}{12}$

50) -14

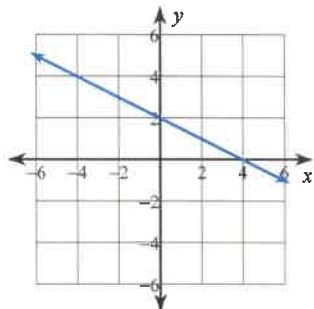
51) $-\frac{2}{5}$

52) -3

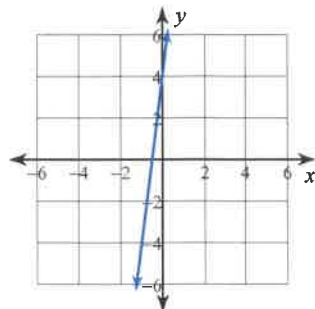
53)



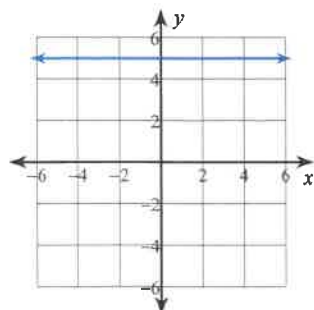
54)



55)



56)



57) $y = -3x - 3$

58) $y = 2$

59) $y = -4x$

60) $y = -3x + 2$

61) $y = -\frac{1}{3}x + \frac{4}{3}$

62) $y = -\frac{5}{2}x + \frac{13}{2}$

63) $y = -4$

64) $y = 2x - 3$

65) $y = -\frac{12}{7}x + 7$

66) $y = 2x$

67) $(2, 2)$

68) $(2, 2)$

69) $(-1, -3)$

70) $(3, 1)$

71) $(8, -6)$

72) $(3, -1)$

Extra Practice (optional)

Evaluate each using the values given.

1) $n + m + 6$; use $m = 6$, and $n = -6$

2) $j - (h + 4)$; use $h = 1$, and $j = -5$

3) $(z - 4) \div y$; use $y = -2$, and $z = -\frac{2}{3}$

4) $(y + x) \div z$; use $x = -1\frac{1}{2}$, $y = \frac{1}{3}$, and $z = \frac{1}{4}$

Simplify each expression.

5) $-7x + 3x$

6) $1 - 6n + 1 + 3n$

7) $-\frac{61}{6}r - \frac{15}{7}r$

8) $\frac{17}{8}b + 2b$

9) $-9 - 10(2 + x)$

10) $-b + 2(6 + 8b)$

11) $-5(-8 + 7x) - 6(x - 7)$

12) $-7(1 - 5a) - 10(5a + 8)$

13) $\frac{12}{5}n + \left(\frac{37}{10}n + 1\right)$

Solve each equation.

14) $-78 = -6k$

15) $12 + p = 18$

16) $19m = -171$

17) $\frac{25}{14} = \frac{5}{7}r$

18) $x + \frac{1}{5} = -\frac{11}{20}$

19) $-103 = 5r - (-8r - 1)$

20) $-123 = -3(1 + 5x)$

21) $-33 - 5v = -4(2v + 6)$

22) $4 - (m + 4) = -6 + 2m$

23) $5(k - 3) + 7(k - 1) = 7k - 6k$

24) $-5x + 3(-x + 8) = -3(8x + 8)$

25) $-87 = -6\left(\frac{7}{2}n + 1\right)$

$$26) \frac{260}{3} = \frac{52}{7} \left(-\frac{4}{3}n + \frac{7}{3} \right)$$

Solve each proportion.

$$27) \frac{2}{6} = \frac{b}{7}$$

$$28) \frac{7}{3} = \frac{n+6}{6}$$

$$29) \frac{8}{10} = \frac{v+2}{8}$$

$$30) \frac{v+2}{2} = \frac{v}{5}$$

$$31) \frac{n}{7} = \frac{n+7}{10}$$

$$32) \frac{4}{10} = \frac{a+4}{a-10}$$

Find each product.

$$33) (x+8)(5x-1)$$

$$34) (6x+7)(4x-6)$$

$$35) (-2a+2)(6a+5)$$

$$36) (7n+4)(4n+3)$$

Factor each completely.

37) $x^2 + 3x - 4$

38) $x^2 - 8x + 15$

39) $7x^2 + 41x + 30$

40) $3v^2 + 7v$

Solve each equation by factoring.

41) $m^2 - 7m + 10 = 0$

42) $x^2 - 64 = 0$

43) $x^2 - 42 = x$

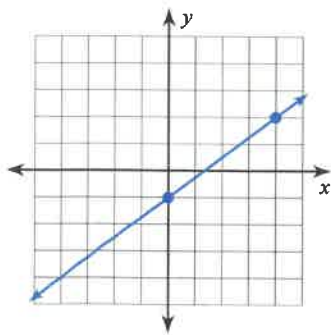
44) $k^2 - k = 12$

45) $x^2 - 16 - 4x = -4x$

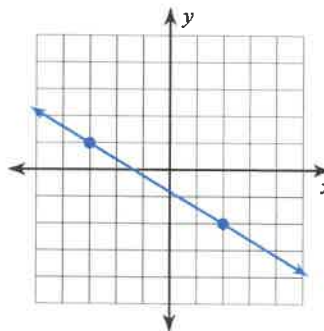
46) $-4x^2 - 6x - 8 = 8 - 5x^2$

Find the slope of each line.

47)



48)



Find the slope of the line through each pair of points.

49) $(-1, -18), (-16, 8)$

50) $(5, 14), (-13, 10)$

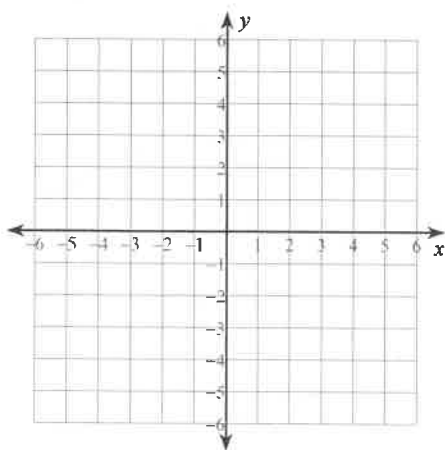
Find the slope of each line.

51) $y = -\frac{8}{3}x - 5$

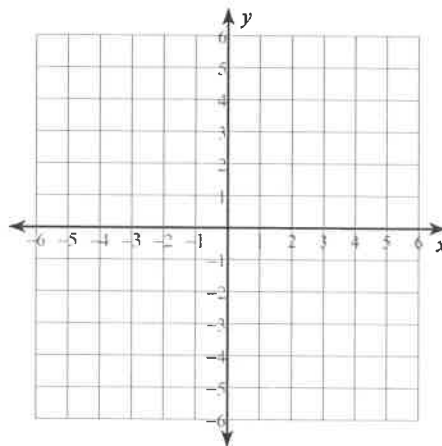
52) $y = -x + 2$

Sketch the graph of each line.

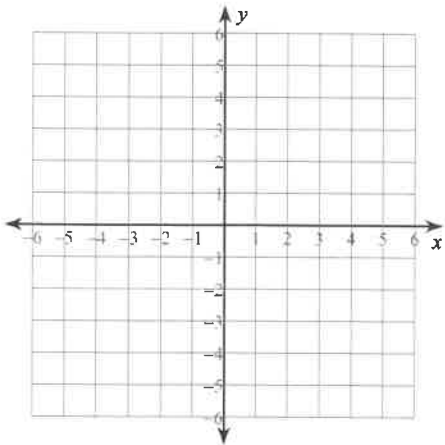
53) $y = 6x - 3$



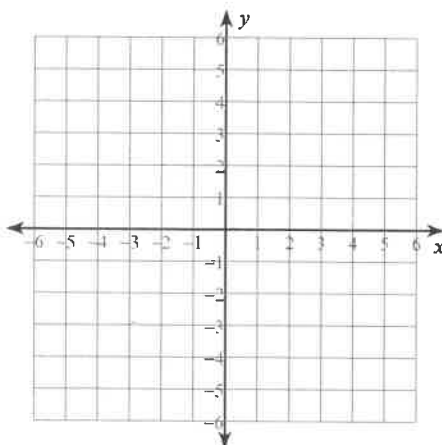
54) $y = -\frac{3}{2}x - 2$



55) $x + 2y = 6$

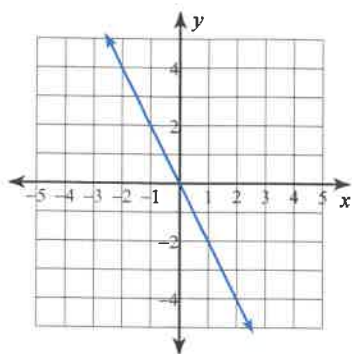


56) $3x - 2y = 10$

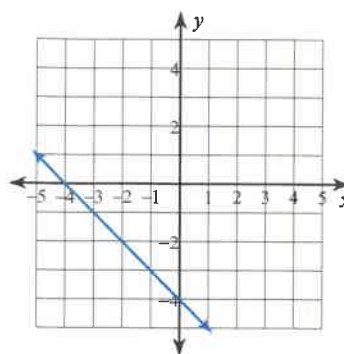


Write the slope-intercept form of the equation of each line.

57)



58)



Write the slope-intercept form of the equation of each line given the slope and y-intercept.

59) Slope = 3, y-intercept = 1

60) Slope = $-\frac{2}{5}$, y-intercept = 0

Write the slope-intercept form of the equation of the line through the given points.

61) through: (2, -5) and (2, -3)

62) through: (5, 4) and (-4, 5)

Write the slope-intercept form of the equation of the line described.

63) through: (4, -1), parallel to $y = -\frac{3}{4}x - 5$

64) through: (4, 0), perp. to $y = -x - 5$

Write the slope-intercept form of the equation of each line.

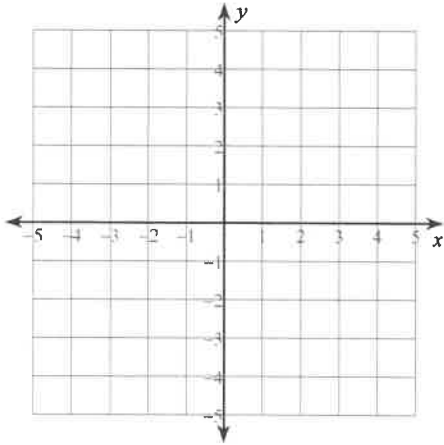
65) $x - 4y = -4$

66) $7x + 6y = 18$

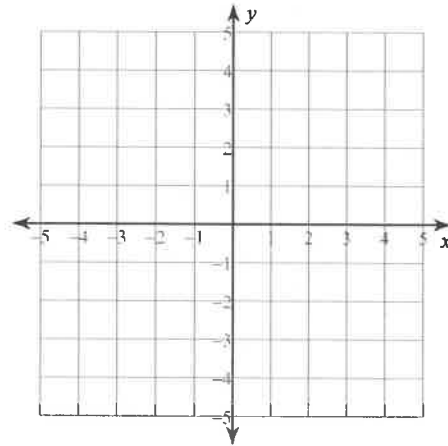
Solve each system by graphing.

67) $y = -\frac{1}{2}x - 4$

$y = x - 1$



68) $x + 2y = -8$
 $x - y = -2$



Solve each system by substitution or elimination.

69) $x - y = 2$
 $3x + y = 2$

70) $3x - 2y = 4$
 $x - 4y = -12$

71) $x - 3y = -15$
 $13x - 9y = 45$

72) $4x - 3y = -12$
 $4x - 3y = 27$

Answers to Extra Practice (optional)

1) 6

2) -10

3) $\frac{7}{3}$

4) $-\frac{14}{3}$

5) $-4x$

6) $2 - 3n$

7) $-\frac{517}{42}r$

8) $\frac{33}{8}b$

9) $-29 - 10x$

10) $15b + 12$

11) $82 - 41x$

12) $-87 - 15a$

13) $\frac{61}{10}n + 1$

14) {13}

15) {6}

16) {-9}

17) $\left\{\frac{5}{2}\right\}$

18) $\left\{-\frac{3}{4}\right\}$

19) {-8}

20) {8}

21) {3}

22) {2}

23) {2}

24) {-3}

25) $\left\{\frac{27}{7}\right\}$

26) {-7}

27) $\left\{\frac{7}{3}\right\}$

28) {8}

29) $\left\{\frac{22}{5}\right\}$

30) $\left\{-\frac{10}{3}\right\}$

31) $\left\{\frac{49}{3}\right\}$

32) $\left\{-\frac{40}{3}\right\}$

33) $5x^2 + 39x - 8$

34) $24x^2 - 8x - 42$

35) $-12a^2 + 2a + 10$

36) $28n^2 + 37n + 12$

37) $(x - 1)(x + 4)$

38) $(x - 5)(x - 3)$

39) $(7x + 6)(x + 5)$

40) $v(3v + 7)$

41) {5, 2}

42) {-8, 8}

43) {7, -6}

44) {-3, 4}

45) {-4, 4}

46) {8, -2}

47) $\frac{3}{4}$

48) $-\frac{3}{5}$

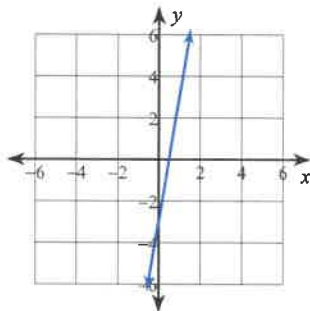
49) $-\frac{26}{15}$

50) $\frac{2}{9}$

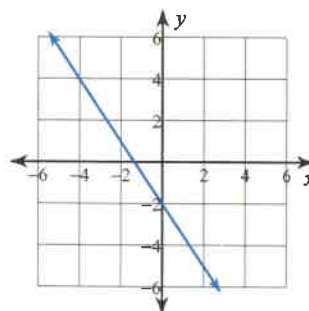
51) $-\frac{8}{3}$

52) -1

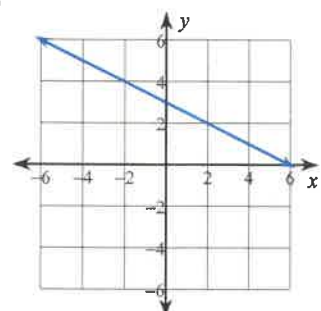
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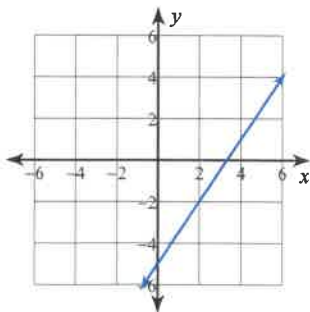
54)



55)



56)



57) $y = -2x$

58) $y = -x - 4$

59) $y = 3x + 1$

60) $y = -\frac{2}{5}x$

61) $x = 2$

62) $y = -\frac{1}{9}x + \frac{41}{9}$

63) $y = -\frac{3}{4}x + 2$

64) $y = x - 4$

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

66) $y = -\frac{7}{6}x + 3$

67) (-2, -3)

68) (-4, -2)

69) (1, -1)

70) (4, 4)

71) (9, 8)

72) No solution