

TEST NAME: **REI.6 NEW**
TEST ID: **719732**
GRADE: **09**
SUBJECT: **Mathematics**
TEST CATEGORY: **School Assessment**

Student: _____

Class: _____

Date: _____

1. A hardware store sold 10 hammers and 120 packages of nails for \$950.50. If it sells one hammer and one package of nails for \$12, how much does one package of nails cost?

- A. \$2.00
- B. \$4.45
- C. \$7.55
- D. \$7.92

2. What is the y -coordinate in the solution of this system of equations?

$$\begin{aligned}5x + 4y &= 7 \\5x + 2y &= 1\end{aligned}$$

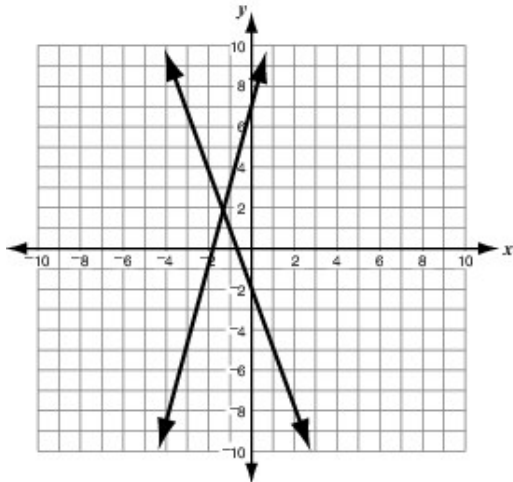
- A. 3
- B. 1
- C. -1
- D. -3

3. What is the point of intersection of the lines represented by these equations?

$$\begin{cases}y = -4x + 1 \\y = x + 6\end{cases}$$

- A. (-1, -5)
- B. (-1, 5)
- C. (1, -3)
- D. (1, 3)

4. What is the approximate solution to the system of equations graphed below?

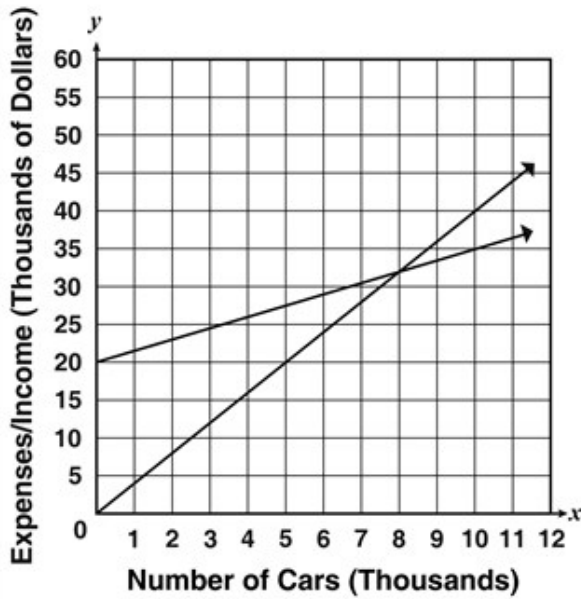


- A. $(7, -2)$
- B. $(1.9, -1.3)$
- C. $(-1.3, 1.9)$
- D. $(-1.8, -0.7)$

5. Drew invested \$20,000 in a company that manufactures toy cars. It costs Drew \$1.50 to manufacture each toy car, which he will then sell for \$4.00. The system graphed below can be used to determine the break-even point, where expenses equal income. The variable y represents both the dollar amount of the expenses as well as the dollar amount of the income.

$$y = 20,000 + 1.50x$$

$$y = 4.00x$$



Based on this graph, what is the best estimate of the number of toy cars Drew must sell to break even?

- A. 8000
 - B. 10,000
 - C. 20,000
 - D. 32,000
6. What is the x -coordinate of the point of intersection for the two lines below?

$$2x + y = -9$$

$$2x - 5y = -3$$

- A. 4
- B. 1
- C. -1
- D. -4

7. Two trains are traveling towards each other at a constant speed.
- The trains are currently 714 miles from each other.
 - The speeds of the trains differ by 8 miles per hour.
 - The trains will meet in 7 hours.

What is the speed of the faster train?

- A. 47 mph
- B. 50 mph
- C. 55 mph
- D. 58 mph

8. What is the value of a in the solution to the system of equations below?

$$\begin{cases} a = 3b + 7 \\ 4a + 9b = 70 \end{cases}$$

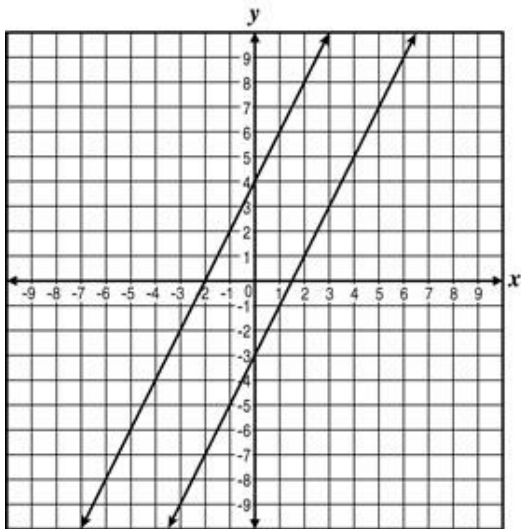
- A. 2
- B. 13
- C. 16
- D. 22

9. What is the point of intersection of the lines represented by these equations?

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

- A. $(-2, 2)$
- B. $(1, -3)$
- C. $(2, -2)$
- D. $(3, -4)$

10. The coordinate plane below shows the graphs of the system of equations $y = 2x + 4$ and $y = 2x - 3$



How many solutions does this system of equations have?

- A. no solutions
 - B. one solution
 - C. two solutions
 - D. more than two solutions
11. What is the x -coordinate of the point of intersection for the two lines below?
- $$2x + y = 7$$
- $$10x - 7y = -1$$
- A. 3
 - B. 2
 - C. -2
 - D. -3
12. Linda graphed a system of equations and found that it had no solution. Which could be the system of equations that Linda graphed?
- A. $y = \frac{1}{2}x + 3$
 $y = \frac{1}{3}x + 3$
 - B. $2x + y = 4$
 $y = -2x - 1$
 - C. $y = \frac{2}{3}x + 1$
 $3y = 2x + 3$
 - D. $3y = 2x + 4$
 $y = \frac{3}{2}x$

13. A system of equations is shown below.

$$\begin{aligned}2x - y &= 0 \\ x + 2y &= 5\end{aligned}$$

What is the solution to the system?

- A. (0, 0)
- B. (1, 2)
- C. (2, 4)
- D. (3, 1)

14. Sue paid \$46 for 2 adult and 4 child tickets to a play. Karen paid \$86 for 4 adult and 7 child tickets to the same play. What is the cost of 1 adult and 1 child ticket?

- A. \$17.00
- B. \$17.50
- C. \$18.50
- D. \$19.00

15. A system of equations is shown below.

$$\begin{aligned}9x + 5y &= 8 \\ 3x - y &= 4\end{aligned}$$

What is the y -value of the solution to the system?

- A. -2
- B. $-\frac{1}{2}$
- C. 2
- D. $\frac{5}{2}$

16. The sum of two numbers is 59. The difference between the two numbers is 11. Which is the smaller of the two numbers?

- A. 20
- B. 22
- C. 24
- D. 26

17. What is the solution to the system of equations shown below?

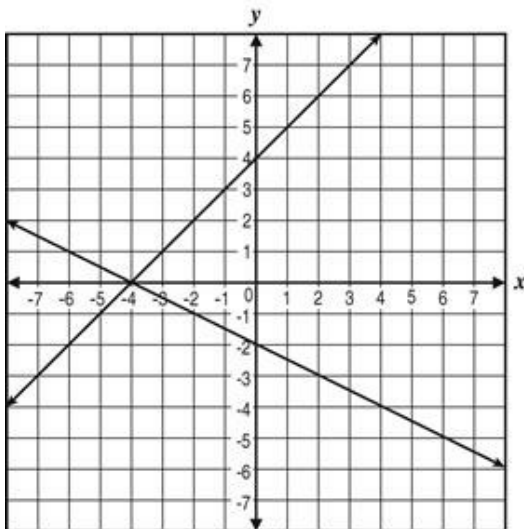
$$\begin{aligned} 3x + 5y &= 15 \\ x + 2y &= 6 \end{aligned}$$

- A. (0, 3)
- B. (0, 5)
- C. (5, 0)
- D. (6, 0)

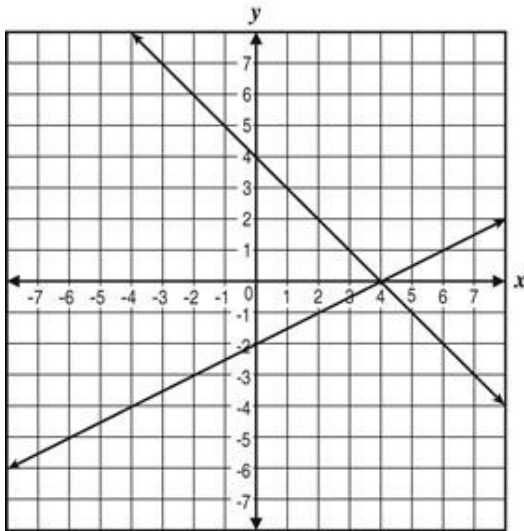
18. Which graph displays the solution to the system of equations?

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

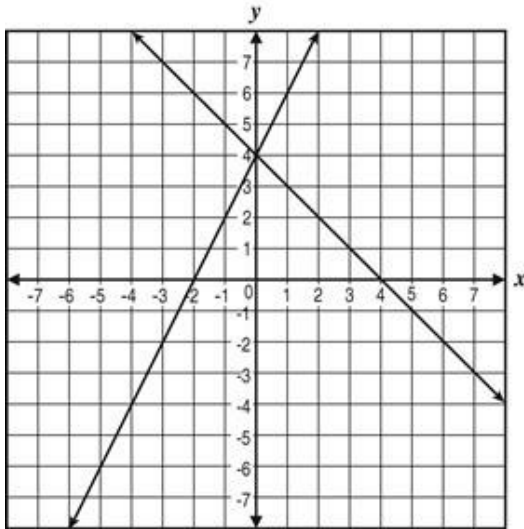
A.



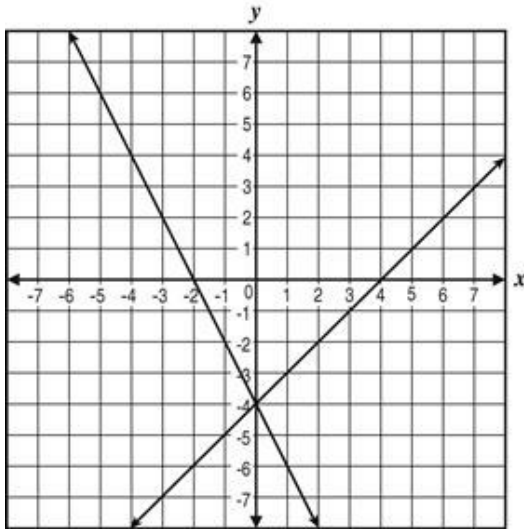
B.



C.



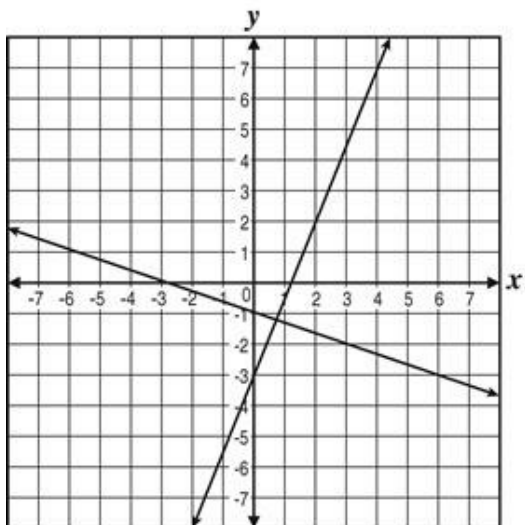
D.



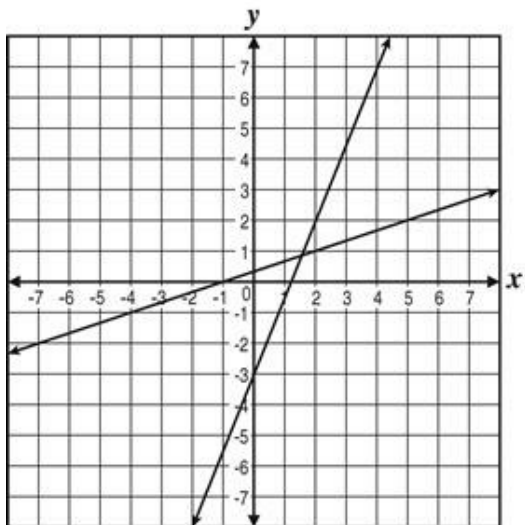
19. Which graph shows the solution of this system of equations?

$$\begin{cases} x - 3y = -1 \\ 5x - 2y = 6 \end{cases}$$

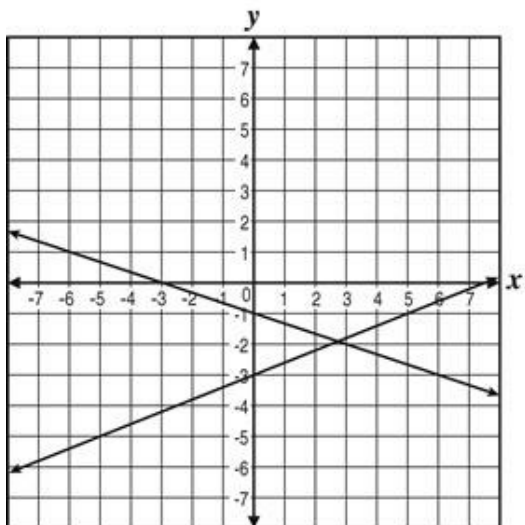
A.



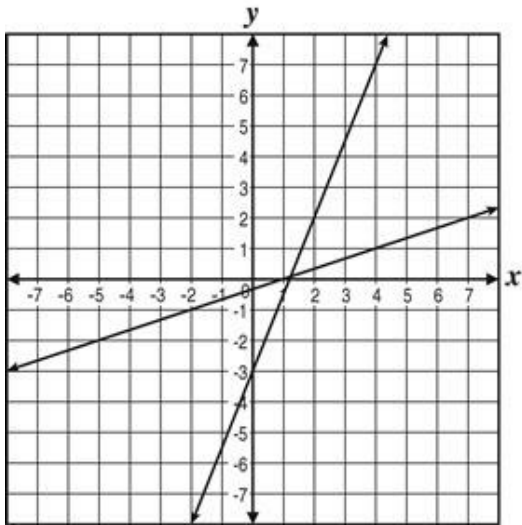
B.



C.



D.



20. A system of equations is shown below.

$$\begin{aligned} 5x + 6y &= -24 \\ -2x + 3y &= 15 \end{aligned}$$

What is the x -value of the solution to the system?

- A. -6
 - B. -1
 - C. 1
 - D. 6
21. A restaurant charges \$1.30 for 1 biscuit and 2 eggs. It charges \$2.15 for 2 biscuits and 3 eggs. What is the cost of 1 biscuit and 1 egg?
- A. \$0.70
 - B. \$0.75
 - C. \$0.80
 - D. \$0.85

22. A system of equations is shown below.

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

$$2y - x = 4$$

Which describes the graph of the system?

- A. one line
- B. two parallel lines
- C. two non-perpendicular intersecting lines
- D. two perpendicular lines

23. What value of y satisfies the system of equations below?

$$2x - y = 6$$

$$2x + 3y = 14$$

- A. 2
- B. 4
- C. 5
- D. 10

24. The total value of quarters and dimes in a coin bank is \$5.20. If the quarters were dimes and dimes were quarters, the total value of the coins would be \$4.60. How many quarters are in the bank?

- A. 12
- B. 14
- C. 16
- D. 18

25. The Smith family paid a total of \$25.50 for 2 adult and 3 child movie tickets. The Jones family paid a total of \$22.00 for 2 adult and 2 child movie tickets. How much more did 1 adult ticket cost than a child ticket?

- A. \$6
- B. \$4
- C. \$2
- D. \$1

26. The sum of two positive numbers is 45. The difference between the numbers is 9. What is the value of the larger number?

- A. 9
- B. 18
- C. 27
- D. 36

27. What is the solution to the system of equations below?

$$2x + y = 7$$

$$3x + 2y = 16$$

- A. $(-2, 11)$
- B. $(2, 5)$
- C. $(4, 2)$
- D. $(5, -3)$

28. On a math test, Stephen missed 3 computation problems and 1 word problem for a total of 9 points off. Brad missed 2 computation problems and 2 word problems for a total of 10 points off. This relationship can be represented by the system of equations below, where x stands for the point value of computation problems missed and y stands for the point value of word problems missed.

$$3x + y = 9$$

$$2x + 2y = 10$$

What is the point value for each word problem?

- A. 2 points
- B. $2\frac{1}{4}$ points
- C. $2\frac{1}{2}$ points
- D. 3 points

29. What is the x -coordinate of the point of intersection for the two lines below?

$$-6x + 8y = -6$$

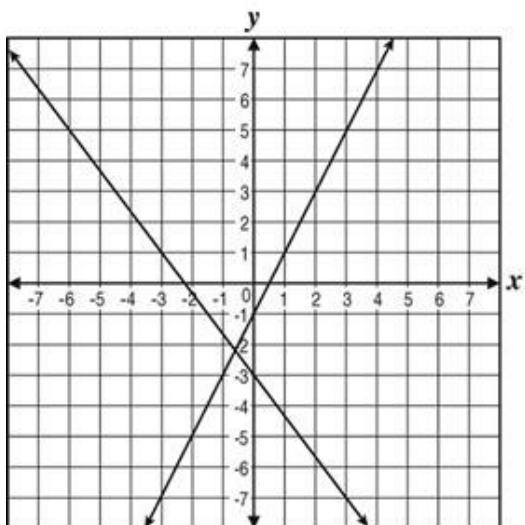
$$7x - 10y = 9$$

- A. -6
- B. -3
- C. 3
- D. 7

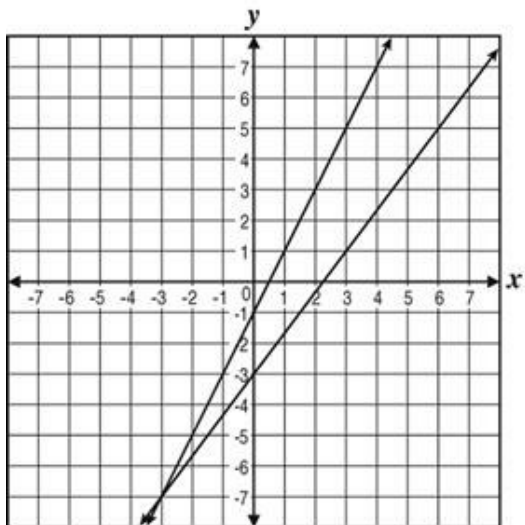
30. Which graph can be used to find the solution of this system of equations?

$$\begin{cases} 4x - 3y = 9 \\ 2x - y = 1 \end{cases}$$

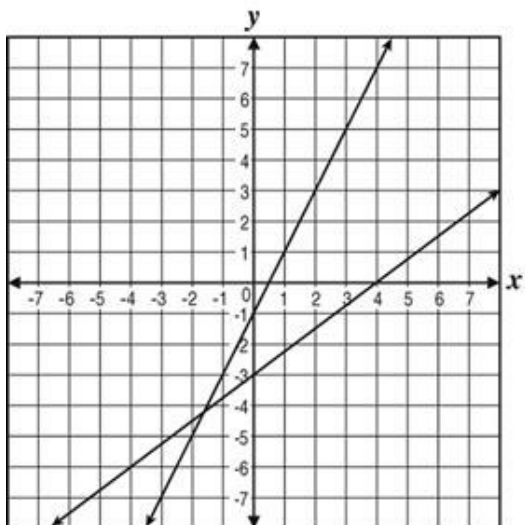
A.



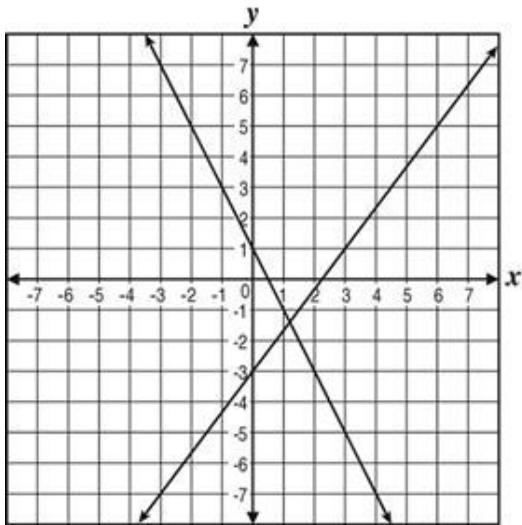
B.



C.



D.



31. Look at the system of equations below.

$$-8a + 9b = 12$$

$$3a + 14 = b$$

What is the value of b for the solution to this system of equations?

- A. 6
- B. 4
- C. -4
- D. -6

32. David is solving a system of linear equations by graphing. First, he graphed both equations on a coordinate plane. What should be his next step in solving the system of linear equations?

- A. find the measure of the angles where the lines intersect
- B. find the location of the point where the lines intersect
- C. find the x -intercept of each line
- D. find the y -intercept of each line

33. A restaurant sells hamburgers and drinks.

- The cost for 4 hamburgers and 3 drinks is \$14.75.
- The cost for 5 hamburgers and 4 drinks is \$18.75.

How much does 1 hamburger cost?

- A. \$1.75
- B. \$2.50
- C. \$2.75
- D. \$3.00

34. What is the solution to the system of equations below?

$$\begin{cases} x - 2y = -6 \\ 3x - y = 7 \end{cases}$$

- A. (4, 5)
- B. (5, 4)
- C. (20, 13)
- D. (13, 20)

35. Janine is considering two movie rental plans. Plan A can be modeled with the equation $C = 3m$, and Plan B can be modeled with the equation $C = 2m + 5$, where C represents the cost in dollars and m represents the number of movies rented each month. Which statement would justify selecting Plan B instead of selecting Plan A?

- A. Janine rents 5 to 10 movies each month.
- B. Janine rents exactly 5 movies each month.
- C. Janine rents exactly 3 movies each month.
- D. Janine rents from 1 to 5 movies each month.

36. What is the solution to the system of equations below?

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

- A. (-2, 2)
- B. (0, 2)
- C. (2, -2)
- D. (2, 0)

37. Using substitution, what is the solution for the system of equations below?

$$\begin{aligned} x &= 2 \\ y &= 3x - 1 \end{aligned}$$

- A. (2, 31)
- B. (2, 4)
- C. (2, 5)
- D. (5, 2)

38. Company 1 earned \$0.546 million more than Company 2. The companies earned a total of \$9.454 million. How much did Company 2 earn?
- A. \$4.454 million
 - B. \$5.000 million
 - C. \$5.091 million
 - D. \$8.908 million
39. Skim milk is 0.1% fat. Whole milk is 3.5% fat. **Approximately** how much skim milk is needed to make 4 gallons of 2% fat milk?
- A. 1.65 gallons
 - B. 1.76 gallons
 - C. 1.80 gallons
 - D. 1.89 gallons

40. What is the x-coordinate of the point of intersection for these two lines?

$$\begin{aligned}9x + 2y &= 16 \\ x - 2y &= 4\end{aligned}$$

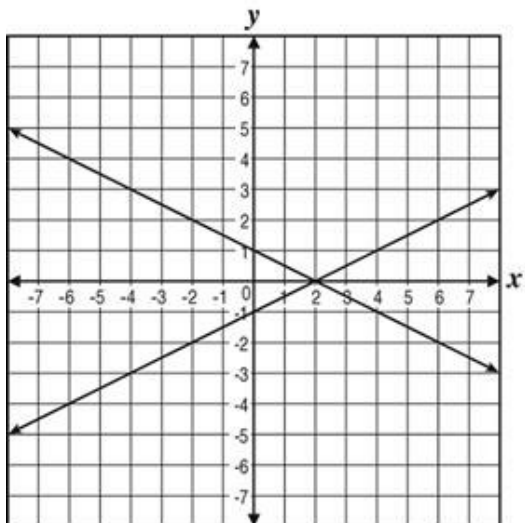
- A. 2
 - B. 1
 - C. -1
 - D. -2
41. What is the solution to the system of equations shown below?

$$\begin{aligned}y &= 6x + 8 \\ y &= -4x - 2\end{aligned}$$

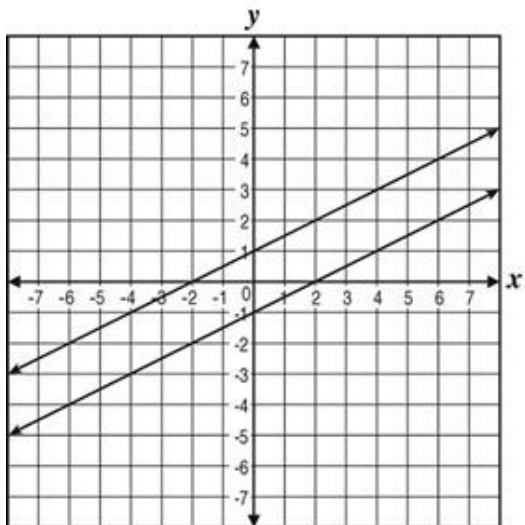
- A. (2, 1)
 - B. (2, -1)
 - C. (1, 2)
 - D. (-1, 2)
42. Which graph can be used to find the solution of this system of equations?

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

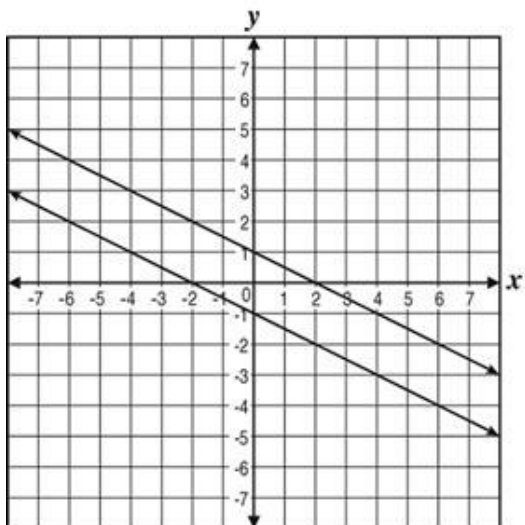
A.



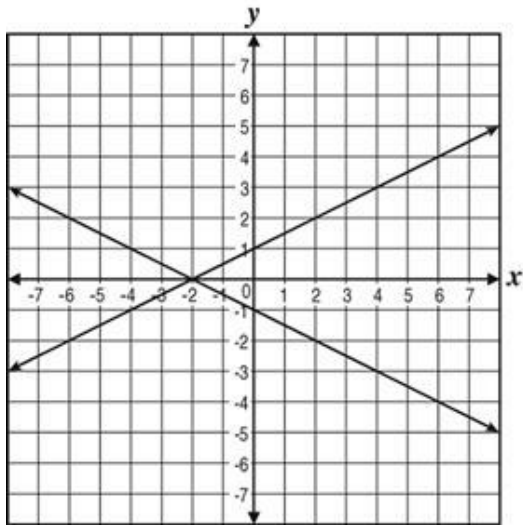
B.



C.

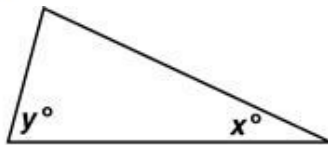


D.

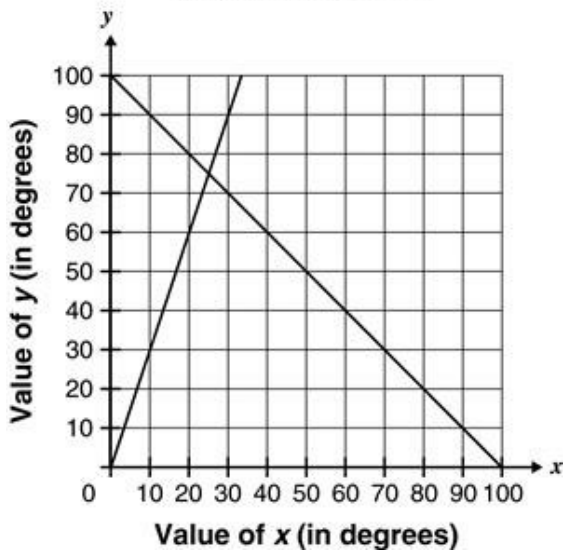


43. The sum of the values of x and y in the triangle below is 100° . The value of y is 3 times greater than the value of x .

$$\begin{cases} x + y = 100 \\ y = 3x \end{cases}$$



Angle Measures



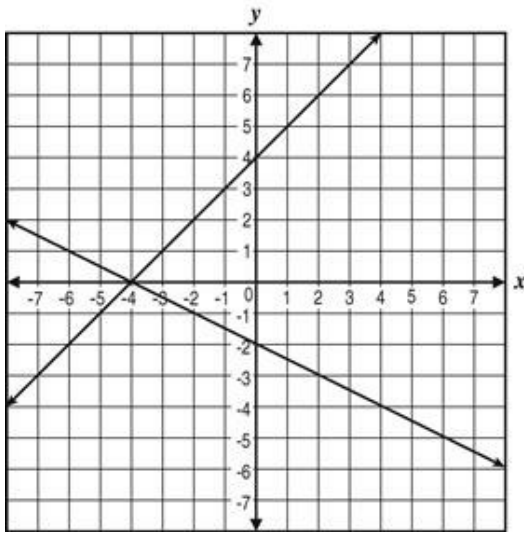
What are the values of x and y ?

- A. $x = 20^\circ$ and $y = 60^\circ$
- B. $x = 25^\circ$ and $y = 75^\circ$
- C. $x = 70^\circ$ and $y = 30^\circ$
- D. $x = 75^\circ$ and $y = 25^\circ$

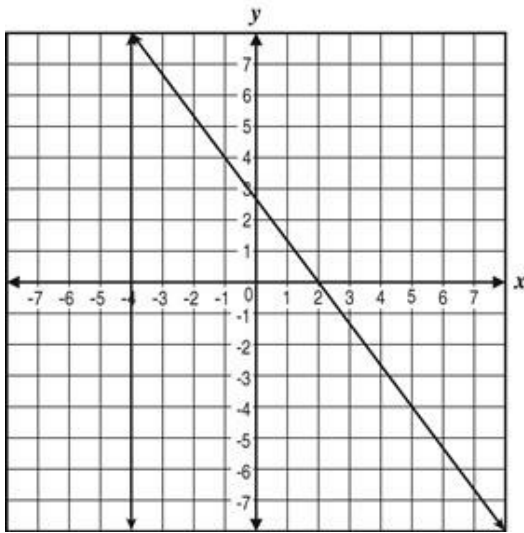
44. What is the solution to the system of equations?

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

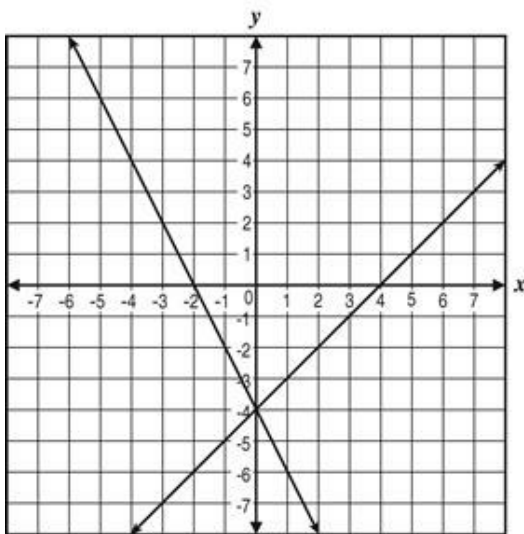
A.



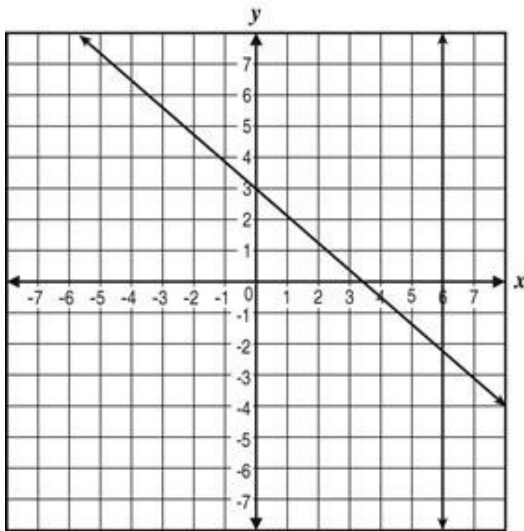
B.



C.



D.



45. A book store sells used books.
- Paperback books cost \$1.00.
 - Hardback books sell for \$5.00.
 - The store sold 100 books and made \$260 from the sale.

How many paperback books did the store sell?

- A. 20
 - B. 40
 - C. 60
 - D. 80
46. Michael is 12 years older than Lynn. The sum of Lynn's and Michael's ages is 84. How old is Michael?
- A. 36
 - B. 38
 - C. 42
 - D. 48

47. A 4-pound box of rice, which is a mixture of white rice and wild rice, sells for \$1.80 per pound.

- White rice sells for \$0.75 per pound.
- Wild rice sells for \$2.25 per pound.

How much white rice is in the mixture?

- A. 1.2 pounds
- B. 1.4 pounds
- C. 2.8 pounds
- D. 3.6 pounds

48. What is the solution to the system of equations below?

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

- A. (0, 15)
- B. (1, 2)
- C. infinitely many solutions
- D. no solution

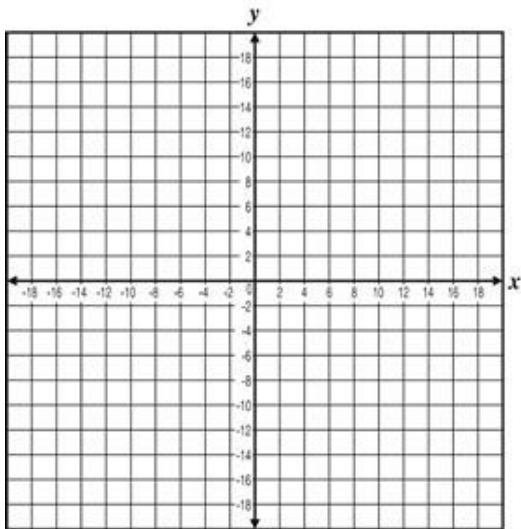
49. In the xy -coordinate plane, the graphs of $y = 3x - 1$ and $y = -2x + 4$ intersect at what point?

- A. (1, 0)
- B. (1, 2)
- C. (2, 0)
- D. (2, 2)

50. What are the coordinates of the point of intersection of the graphs of the equations below?

$$5x + y = 19$$

$$5x + y = 12$$



- A. (10, 9)
- B. (19, 12)
- C. The lines are coincident.
- D. The lines do not intersect; they are parallel.

51. A system of equations is shown below.

$$\begin{aligned} 3 - 2y &= x \\ 2x - 3y &= 6 \end{aligned}$$

What is the solution to the system?

- A. (0, -2)
- B. (1, 1)
- C. (3, 0)
- D. (5, -1)

52. On Tuesday, Wendy and her friend purchased 3 sandwiches and 2 drinks for \$15.75. On Friday, Wendy purchased 2 sandwiches and 1 drink at the same restaurant for \$9.85. How much does 1 sandwich cost?

- A. \$5.90
- B. \$3.95
- C. \$3.25
- D. \$1.95

53. A movie theater sells small and large boxes of popcorn.

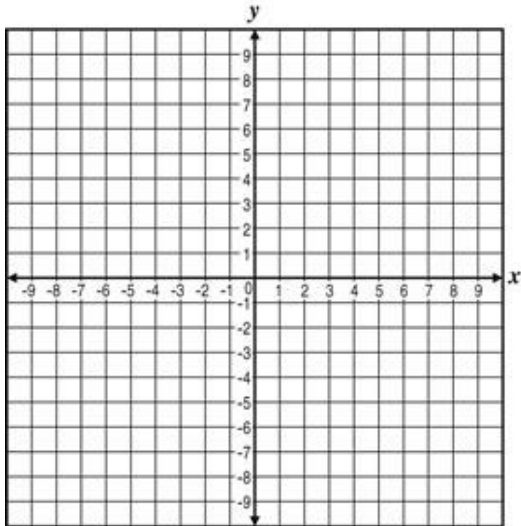
- A small box of popcorn costs \$1.50.
- A large box of popcorn costs \$4.00.
- A total of 25 boxes of popcorn were sold totaling \$75.00.

How many large boxes of popcorn were sold?

- A. 6
- B. 10
- C. 12
- D. 15

54. The equations for two distinct lines are given below.

$$\begin{cases} y = -7x + 9 \\ y = 4x - 2 \end{cases}$$



What is the x -coordinate of the point of intersection of the two lines?

- A. 2
- B. 1
- C. -1
- D. -2

55. What is the y -coordinate for the solution of the system of equations below?

$$9x + 4y = 11$$

$$3x + 2y = 7$$

- A. 5
- B. 1
- C. -1
- D. -5

56. What is the x -coordinate of the point of intersection for the two lines below?

$$-6x + 9y = 6$$

$$4x - 7y = 6$$

- A. 16
- B. 10
- C. -10
- D. -16

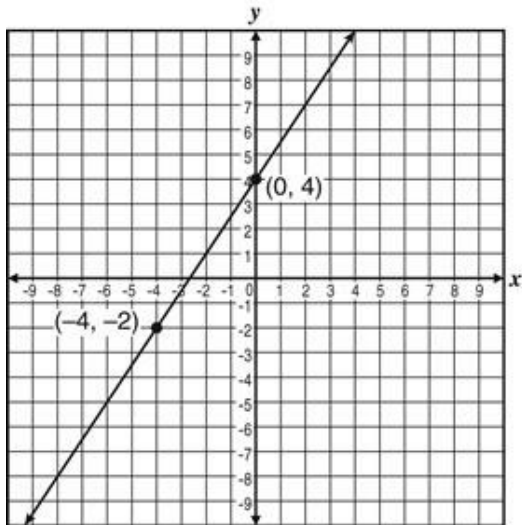
57. What is the y -coordinate for the solution of the system of equations below?

$$10x + 7y = 2$$

$$8x + 5y = 4$$

- A. -4
- B. -3
- C. 3
- D. 4

58. A line perpendicular to the line graphed below has a y -intercept of -2.5 .



At which point do the two lines intersect?

- A. $(-3, -0.5)$
- B. $(-2, 1)$
- C. $(-1, 2.5)$
- D. $(2, 7)$

59. How many solutions does the system of equations below have?

$$y = 2x + 2$$

$$y = x - 1$$

- A. one
- B. two
- C. none
- D. infinitely many

60. Look at the system of equations below.

$$y = 2x + 5$$

$$y = x + 6$$

What is the x-coordinate of the solution to the system?

- A. -7
- B. -1
- C. 1
- D. 7

61. What value of y satisfies the system of equations below?

$$2x - y = 12$$

$$x + 3y = -1$$

- A. $-\frac{10}{7}$
- B. -2
- C. 2
- D. $\frac{14}{5}$

62. Which statement is true about the solution to the system of equations below?

$$\begin{cases} 2y = 2x + 2 \\ 4y = 4x + 10 \end{cases}$$

- A. The two intersect along a line, so there is an infinite number of solutions.
- B. The two lines intersect at two points, so there are two solutions.
- C. The two lines are parallel, so there are no common points.
- D. The two lines intersect at one point, so there is one solution.

63. The sum of the digits of a two-digit number is 7. If the digits are reversed the number is increased by 27. What is the number?

- A. 25
- B. 34
- C. 43
- D. 61

64. Which statement is true about the solution to this system of equations?

$$\begin{cases} 3y = 3x + 6 \\ y = x + 2 \end{cases}$$

- A. The two lines coincide.
- B. The two lines do not intersect.
- C. The two lines intersect at exactly one point.
- D. The two lines intersect at exactly two points.

65. How many solutions does the system of equations below have?

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

- A. one
- B. two
- C. none
- D. infinitely many

66. One number is 16 more than another. The ratio of the smaller number to the larger number is 3 : 7. What is the value of the smaller number?

- A. 6
- B. 8
- C. 10
- D. 12

67. What is the solution to the system of equations below?

$$\begin{cases} 6x + 3y = -21 \\ 2x + 5y = 5 \end{cases}$$

- A. $(-5, -17)$
- B. $(-5, 3)$
- C. $(-2, -3)$
- D. $(3, -13)$

68. A system of equations is shown below.

$$\begin{array}{r} 2x + y = 9 \\ x + y = 6 \end{array}$$

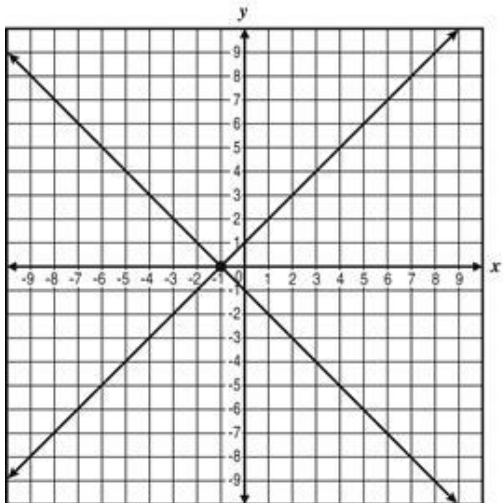
What is the solution to the system?

- A. (1, 7)
- B. (2, 5)
- C. (3, 3)
- D. (4, 1)

69. Joe and Charlie ate at the same restaurant. Joe bought 4 hamburgers and 2 sodas for \$12.50. Charlie bought 3 hamburgers and 3 sodas for \$11.25. What was the price of one hamburger?

- A. \$1.25
- B. \$1.50
- C. \$2.25
- D. \$2.50

70. The system of equations $y = x + 1$ and $y = -x - 1$ is graphed below.



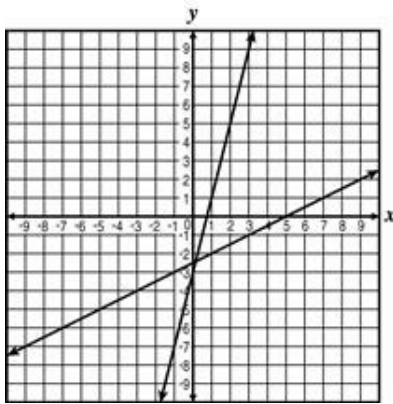
What is the solution of this system of equations?

- A. $(0, -1)$
 - B. $(-1, 0)$
 - C. $(0, 1)$
 - D. $(1, 0)$
71. Joe bought 2 pairs of jeans and 1 shirt for \$120. Sam bought 1 pair of jeans and 3 shirts for \$135. How much does 1 shirt cost?
- A. \$45.00
 - B. \$40.00
 - C. \$33.75
 - D. \$30.00

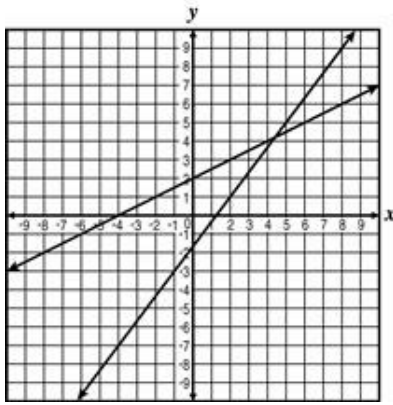
72. Which graph best represents the solution to the system of equations below?

$$\begin{cases} 4x - 8y = -20 \\ 4x - 3y = 5 \end{cases}$$

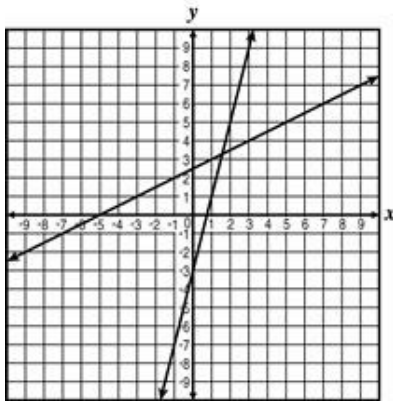
A.



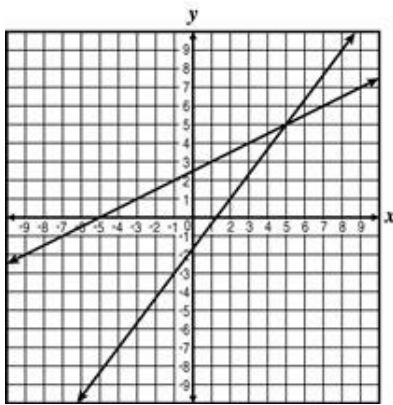
B.



C.



D.



73. A store sells bracelets that cost x dollars and necklaces that cost y dollars. Jessica bought 4 bracelets and 7 necklaces for \$18. Brianna bought 5 bracelets and 4 necklaces for \$13. Gabby bought 3 bracelets and 2 necklaces. How much money did Gabby spend on bracelets and necklaces?

- A. \$3
- B. \$7
- C. \$8
- D. \$11

74. Mike solved a system of equations and found that it had infinite solutions. Which could be the system of equations Mike solved?

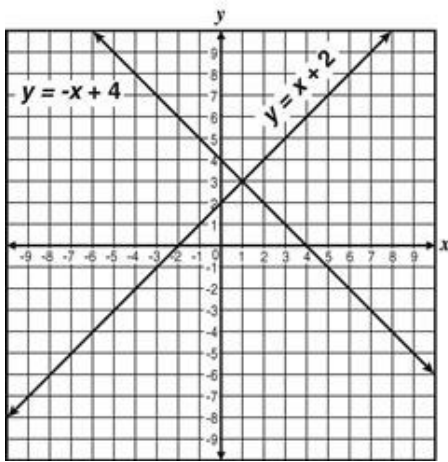
- A. $y = \frac{1}{2}x + 3$
 $y = \frac{1}{2}x + 5$
- B. $y = \frac{2}{3}x + 1$
 $3y = 2x - 6$
- C. $6x + 3y = -3$
 $y = -2x - 1$
- D. $2y = 6x + 4$
 $y = \frac{3}{2}x$

75. What is the y -coordinate for the solution of this system of equations?

$$x + 6y = 15$$
$$x + 8y = 5$$

- A. 45
- B. 5
- C. -5
- D. -45

76. Two lines are graphed. Which coordinate pair represents the intersection of the lines?



- A. $(-2, 0)$
- B. $(-1, 1)$
- C. $(2, 2)$
- D. $(1, 3)$

77. The equations for two distinct lines are given below.

$$y = -6x + 20$$
$$y = 5x - 13$$

What is the x-coordinate of the point of intersection of the two lines?

- A. 3
- B. 2
- C. -2
- D. -3

78. The difference between two numbers is one. Three times the larger number minus two times the smaller number is 9. What is the value of the larger number?

- A. 5
- B. 6
- C. 7
- D. 8

79. What is the x -coordinate of the point of intersection for the two lines below?

$$7x + 6y = 20$$

$$3x - 8y = -2$$

- A. 2
- B. 1
- C. -1
- D. -2

80. What is the y -coordinate for the solution of the system of equations below?

$$4x + 9y = 14$$

$$4x + 5y = 6$$

- A. -2
- B. -1
- C. 1
- D. 2

81. What is the x -coordinate of the point of intersection for the two lines below?

$$7x + 4y = 18$$

$$9x - 4y = 14$$

- A. 2
- B. 1
- C. -1
- D. -2

82. Jan bought 6 cookies and 4 doughnuts for \$3.50. Tom bought 12 cookies and 5 doughnuts for \$5.23. What is the cost of 1 cookie?

- A. \$0.19
- B. \$0.29
- C. \$0.35
- D. \$0.59

83. One brand of suntan lotion comes in a small size with x ounces of lotion and a regular size with y ounces of lotion. Two small bottles plus one regular bottle contain 15 ounces of lotion, while one small bottle and two regular bottles contain 19.5 ounces of lotion. This relationship is shown in the system of equations below.

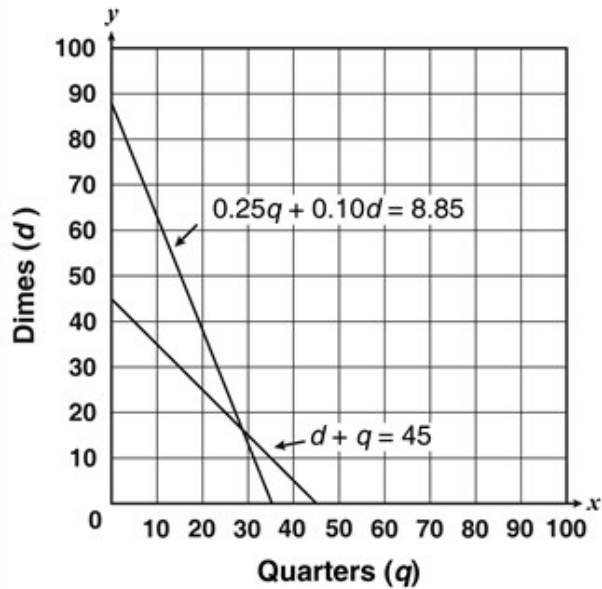
$$2x + y = 15$$

$$x + 2y = 19.5$$

What is the number of ounces of lotion in the small bottle?

- A. 3.5 ounces
- B. 5.0 ounces
- C. 5.75 ounces
- D. 6.5 ounces

84. Manuel has a bowl of quarters and dimes. There are 45 coins totaling \$8.85. To find the number of each coin, Manuel used a system of linear equations and graphed them in the coordinate plane.



Based on the graph, about how many quarters are in the bowl?

- A. 15
 - B. 30
 - C. 35
 - D. 90
85. What is the solution of the system of equations?

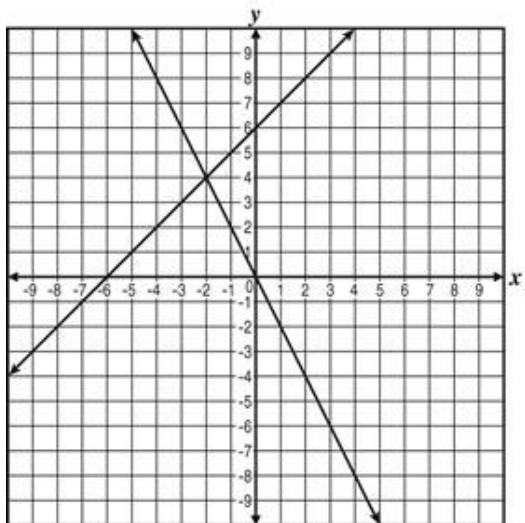
$$\begin{cases} x + 3y = -4 \\ 3x + 9y = -12 \end{cases}$$

- A. (1, 3)
- B. (-1, -1)
- C. infinitely many solutions
- D. no solution

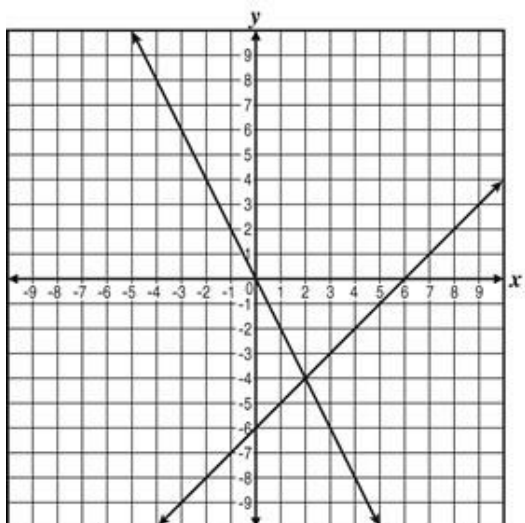
86. Which graph represents the system of equations below?

$$\begin{cases} y = -x + 6 \\ y = 2x \end{cases}$$

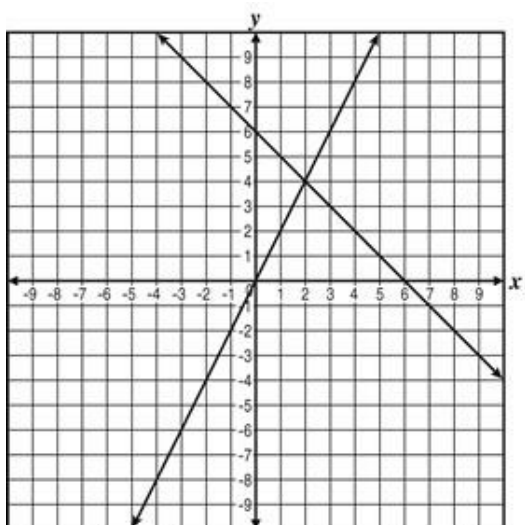
A.



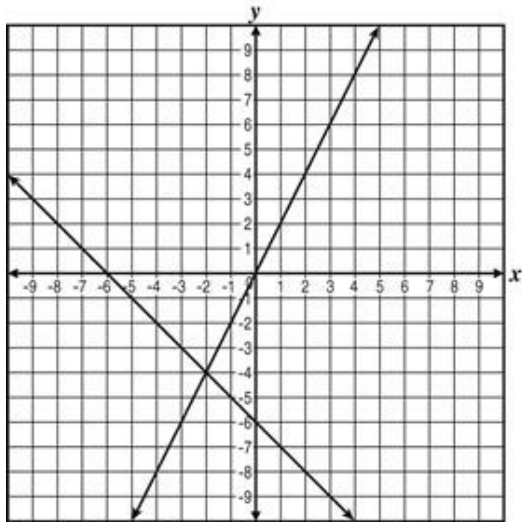
B.



C.



D.



87. What is the x -coordinate of the point of intersection for the two lines below?

$$-x + 2y = -7$$

$$3x - 2y = 5$$

- A. 4
- B. 1
- C. -1
- D. -4

88. A system of equations is shown below.

$$3x + 6 = 4y$$

$$3x - 2y = 0$$

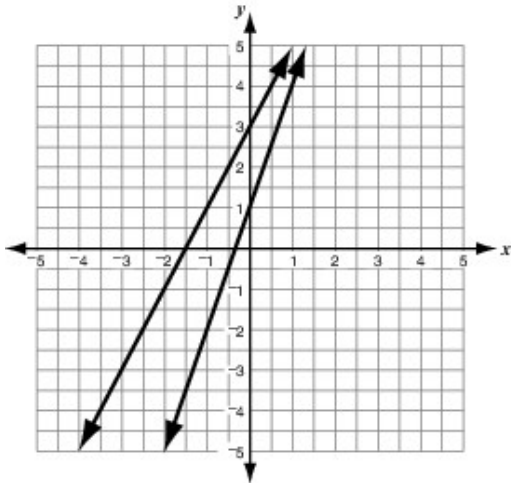
What is the x -value in the solution to the system?

- A. -3
- B. $-\frac{2}{3}$
- C. $\frac{1}{4}$
- D. 2

89. Caroline is considering two video game rental plans. Plan A can be modeled with the equation $C = 2n$, and Plan B can be modeled with the equation $C = n + 6$, where C represents the cost in dollars and n represents the number of games rented each month. Which statement would justify selecting Plan A instead of selecting Plan B?

- A. Caroline rents exactly 7 games each month.
- B. Caroline rents exactly 6 games each month.
- C. Caroline rents 6 or more games each month.
- D. Caroline rents from 1 to 5 games each month.

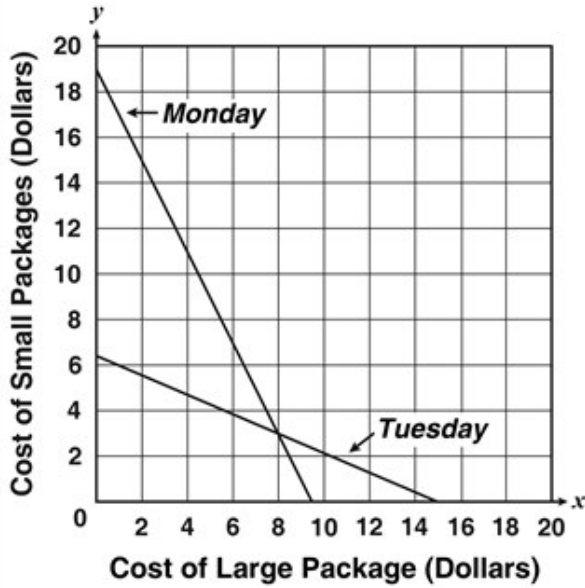
90. Bella is solving a system of equations. She evaluates the equations and decides to solve them by the graphing method. The graph she constructed to solve the system of equations is shown below.



Which of these is the best approximated solution for this system of equations?

- A. $(0, 1)$
 - B. $(1, 5)$
 - C. $(2, 7)$
 - D. $(4, 11)$
91. Linda has a total of \$4,000 invested in two accounts. One account pays 5% interest, and the other pays 8% interest. How much does she have invested in each account if her total interest for a year is \$284?
- A. \$1,200 at 5% and \$2,800 at 8%
 - B. \$1,600 at 5% and \$2,400 at 8%
 - C. \$2,400 at 5% and \$1,600 at 8%
 - D. \$2,800 at 5% and \$1,200 at 8%

92. A delivery service offers two package sizes. On Monday, the service delivered 40 large and 20 small packages for a cost of \$380. On Tuesday, 32 large and 80 small packages were delivered for \$496.



Based on the graph for Monday and Tuesday, which is closest to the cost to deliver each type of package?

- A. Large \$3; Small \$8
 - B. Large \$8; Small \$3
 - C. Large \$6; Small \$9
 - D. Large \$9; Small \$6
93. A system of equations is shown below.

$$\begin{aligned} 3x + 2y &= 18 \\ 1.5x + 0.75y &= 7.5 \end{aligned}$$

What is the y-value of the solution to the system?

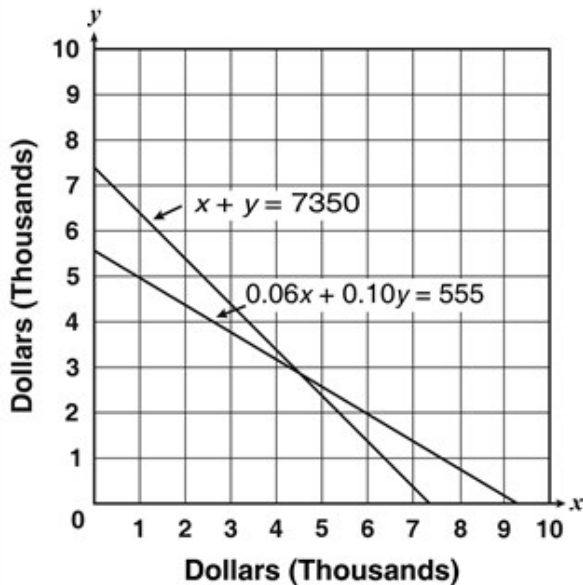
- A. 2
- B. 4
- C. 6
- D. 8

94. Which system of equations has exactly one solution?

- A. $y = x + 2$
 $2y = 2x + 4$
- B. $y = x + 3$
 $4y = 4x + 12$
- C. $y = x + 4$
 $4y = 4x + 12$
- D. $y = 4x + 12$
 $4y = x + 4$

95. Brenda had a total of \$7,350 invested in two accounts. The first account earned 6% simple interest. The second account earned 10% simple interest. At the end of the year, the two accounts had earned Brenda a total of \$555 in interest. The graph shows this relationship.

x = Amount invested at 6%
 y = Amount invested at 10%



Based on the graph, about how much was invested at each rate?

- A. About \$3,000 was invested at 6% and \$4,500 at 10%.
- B. About \$4,500 was invested at 6% and \$3,000 at 10%.
- C. About \$7,300 was invested at 6% and \$7,300 at 10%.
- D. About \$9,300 was invested at 6% and \$5,500 at 10%.

96. Greg invested \$11,000 in two accounts.

- The first account pays 5% interest per year.
- The second account pays 8% interest per year.
- Greg earned a total of \$752.50 in interest at the end of the first year.

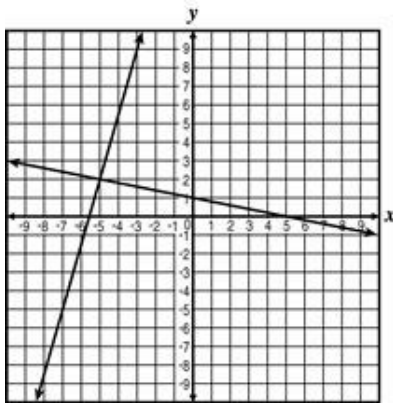
How much did Greg invest in the 5% account?

- A. \$3,415
- B. \$4,250
- C. \$5,500
- D. \$6,750

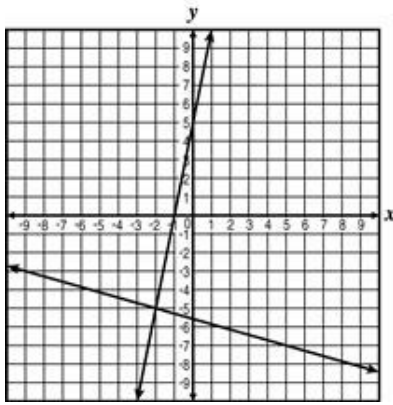
97. Which graph represents the solution to the following system of linear equations?

$$\begin{cases} 7x - 2y = -39 \\ x + 5y = 5 \end{cases}$$

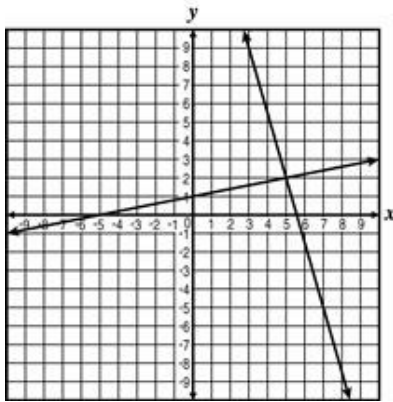
A.



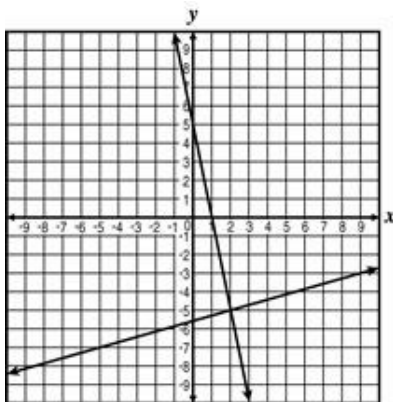
B.



C.



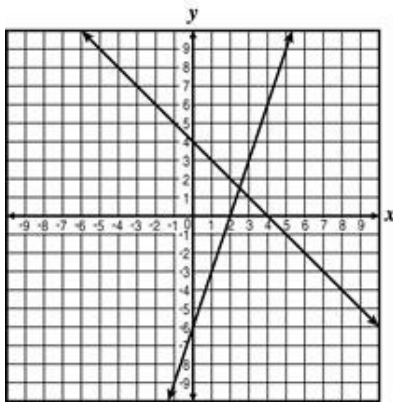
D.



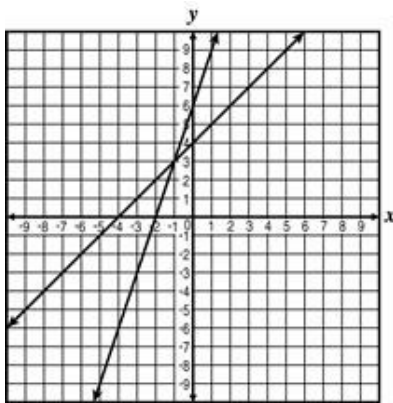
98. Which graph best represents the solution to the system of equations below?

$$\begin{cases} y = x + 4 \\ y = 3x - 6 \end{cases}$$

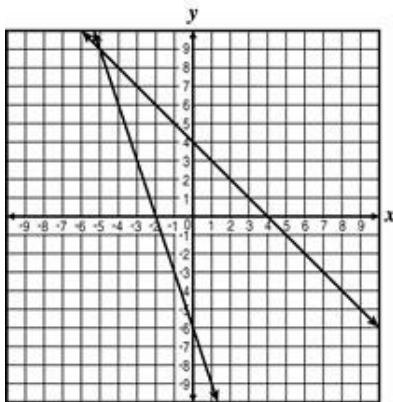
A.



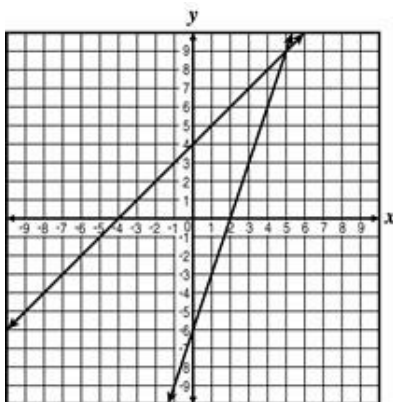
B.



C.



D.



99. What is the value of x in the solution to the system of equations below?

$$2x + y = 1$$

$$2x + 3y = 11$$

- A. $x = 5$
- B. $x = 3$
- C. $x = -1$
- D. $x = -2$

100. What is the y -coordinate of the solution to this system of equations?

$$5x - 8y = 1$$

$$3x + 6y = -21$$

- A. $y = -3$
- B. $y = -2$
- C. $y = 2$
- D. $y = 3$

101. Which system of equations would have no solution?

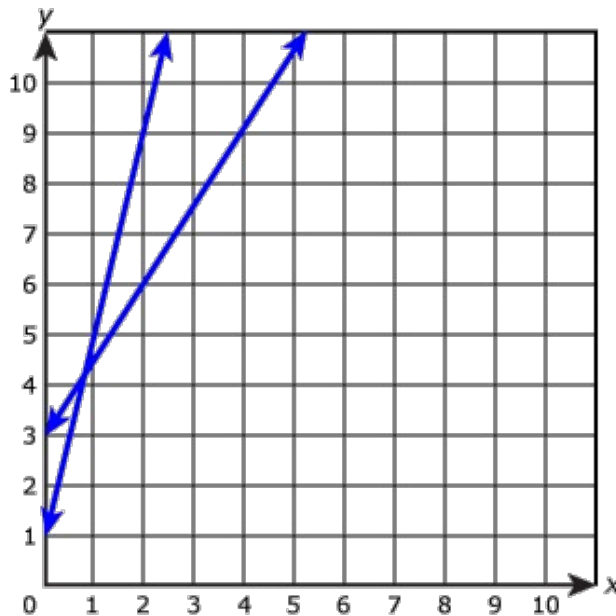
A. $y = \frac{1}{3}x - 2, x + 3y = 6$

B. $y = 3x + 2, x + 3y = -6$

C. $y = 3x + 2, x + 3y = 6$

D. $y = \frac{1}{3}x - 2, x - 3y = -6$

102. Tom graphed a system of equations on a sheet of 1-quadrant grid paper as shown.



Which system of equations could be shown on this grid paper?

A.
$$\begin{cases} y = 3 + \frac{3}{2}x \\ y = 1 + 4x \end{cases}$$

B.
$$\begin{cases} y = \frac{3}{2} + 3x \\ y = 4 + x \end{cases}$$

C.
$$\begin{cases} y = 3 + \frac{2}{3}x \\ y = 1 + \frac{1}{4}x \end{cases}$$

D.
$$\begin{cases} y = \frac{2}{3} + 3x \\ y = \frac{1}{4} + x \end{cases}$$

103. What value of y makes the system of equations below true?

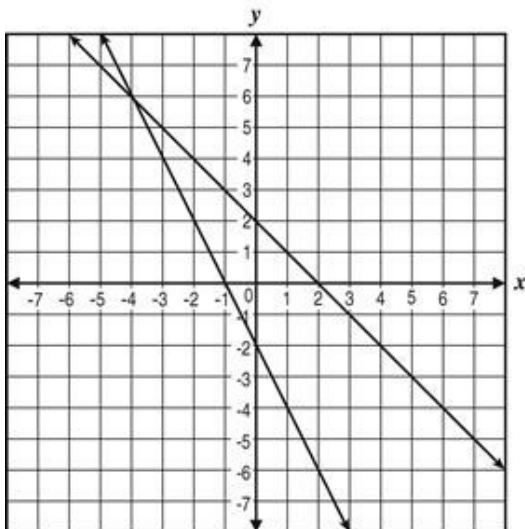
$$\begin{aligned} y &= 6x - 4 \\ y &= 5x - 2 \end{aligned}$$

- A. 8
- B. 2
- C. -2
- D. -8

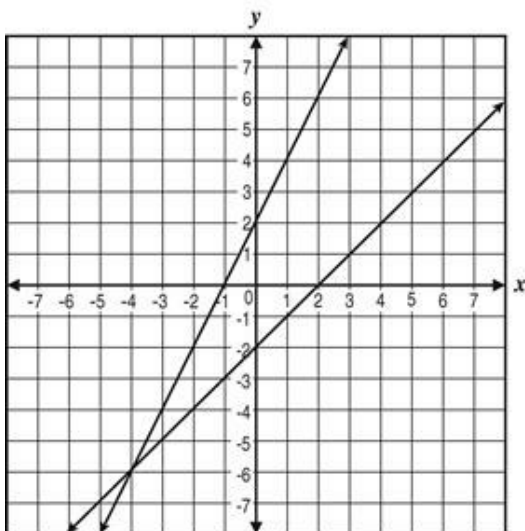
104. Which graph displays the solution to the system of equations shown?

$$\begin{cases} 2x + y = -2 \\ x + y = 2 \end{cases}$$

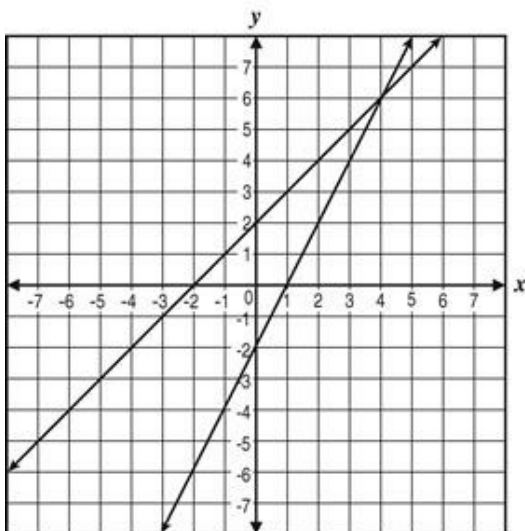
A.



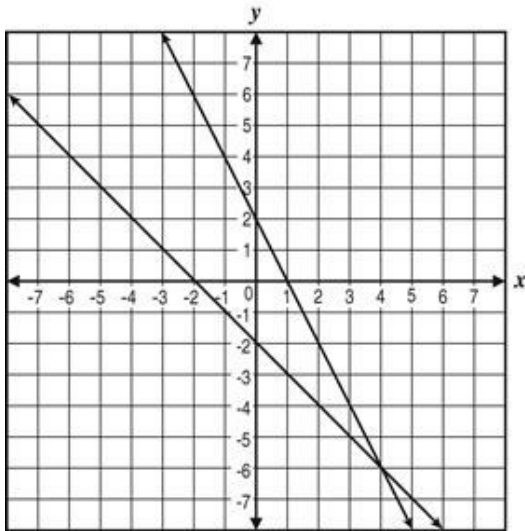
B.



C.



D.



105. What is the solution to the following system of linear equations?

$$\begin{cases} 3x = 7 + y \\ y = 1 - x \end{cases}$$

- A. $(-2, 1)$
- B. $(-1, -2)$
- C. $(-1, 2)$
- D. $(2, -1)$

106. What is the x-coordinate of the solution to this system of linear equations?

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

$$x + 2y = 1$$

- A. 2
- B. $1\frac{1}{10}$
- C. $-\frac{1}{2}$
- D. $-2\frac{2}{3}$

107. A system of equations is shown below.

$$\begin{aligned}5x - 2y &= 11 \\3x + 5y &= 19\end{aligned}$$

What is the solution to the system of equations?

- A. $(3, 2)$
- B. $\left(\frac{4}{3}, 3\right)$
- C. $(-3, -2)$
- D. no solution

108. What is the solution to the following system of equations?

$$\begin{cases}4x + 7y = -5 \\x - y = -4\end{cases}$$

- A. $\left(-\frac{1}{3}, \frac{11}{3}\right)$
- B. $(-3, 1)$
- C. $\left(-\frac{45}{11}, -\frac{1}{11}\right)$
- D. $(-11, -7)$

109. What is the solution of the system of equations?

$$\begin{cases}x - 3y = 2 \\2x - 6y = 5\end{cases}$$

- A. $(0, 0)$
- B. $(1, -3)$
- C. infinitely many solutions
- D. no solution

110. Which ordered pair represents the solution to the system of equations shown below?

$$2x - 3y = 3$$

$$4x - 2y = 10$$

A. $(0, -1)$

B. $(0, -5)$

C. $(2, 1)$

D. $(3, 1)$

111. A barge traveled 17.5 miles upstream on a river in 7 hours. The return trip took the barge 5 hours. What is the rate of the barge in still water, in miles per hour?

A. 0.5

B. 2.5

C. 3.0

D. 3.5

112. What is the x -coordinate of the solution to the system of equations shown below?

$$y - 2x = 4$$

$$3x - 5y = 15$$

A. -6

B. -5

C. $\frac{5}{3}$

D. 5

113. Which of these correctly explains the solution of the system of equations shown below?

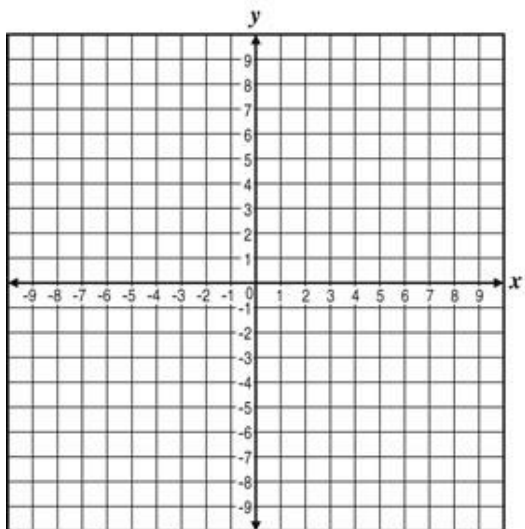
$$2x + 3y = 6$$

$$x + 3y = 12$$

- A. The equations have y-intercepts at 2 and 4; therefore, (2, 4) is the solution.
- B. The equations have x-intercepts at 3 and 12; therefore, (3, 12) is the solution.
- C. The values of $x = -6$ and $y = 6$ satisfy both the equations; therefore, $(-6, 6)$ is the solution.
- D. The lines representing the equations intersect at $x = 1$ and $y = 0$; therefore, (1, 0) is the solution.

114. Which value of y makes the system of equations below true?

$$\begin{cases} y = 2x - 5 \\ y = x - 2 \end{cases}$$



- A. 3
- B. 1
- C. -1
- D. -3

115. Which statement describes the graph of this system of equations?

$$\begin{cases} 2x + 3y = 9 \\ 4x - 6y = 18 \end{cases}$$

- A. The lines are parallel.
- B. The lines are coincident.
- C. The lines intersect at point $\left(\frac{9}{2}, 0\right)$.
- D. The lines intersect at point $\left(\frac{27}{8}, \frac{3}{4}\right)$.

116. What is the y-coordinate for the solution of the system of equations shown?

$$\begin{cases} x + 4y = 9 \\ 5x + 10y = 5 \end{cases}$$

- A. 7
- B. 4
- C. -4
- D. -7

117. Look at the system of equations shown.

$$\begin{cases} y = 3x + 7 \\ y = 2x + 8 \end{cases}$$

What is the x-coordinate of the solution to the system?

- A. -10
- B. -1
- C. 1
- D. 10

118. What is the solution to the system of equations?

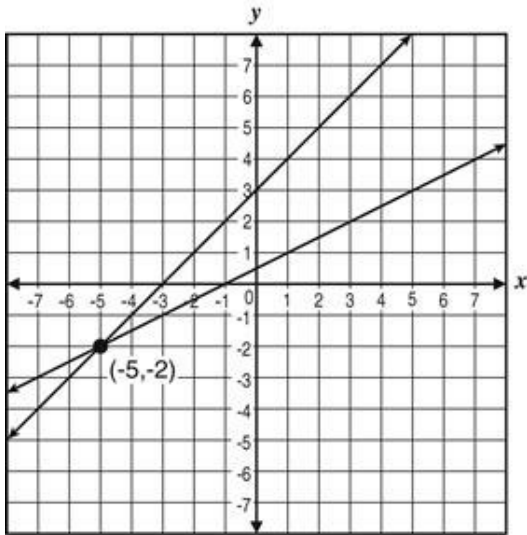
$$\begin{cases} 2x - 4y = 6 \\ x - 3y = 1 \end{cases}$$

- A. $(-5, -4)$
- B. $(-1, -2)$
- C. $(7, 2)$
- D. $(11, 4)$

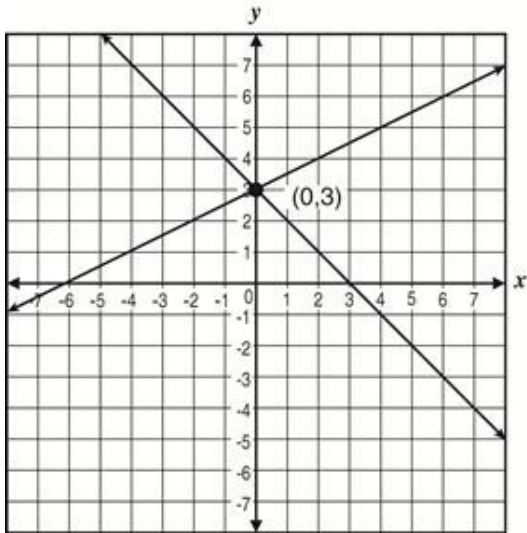
119. Which graph shows the solution to the system of equations?

$$\begin{cases} 5x + 5y = 15 \\ 3x + 6y = 3 \end{cases}$$

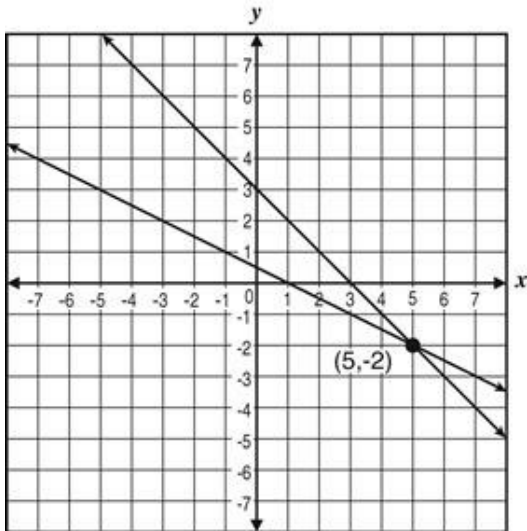
A.



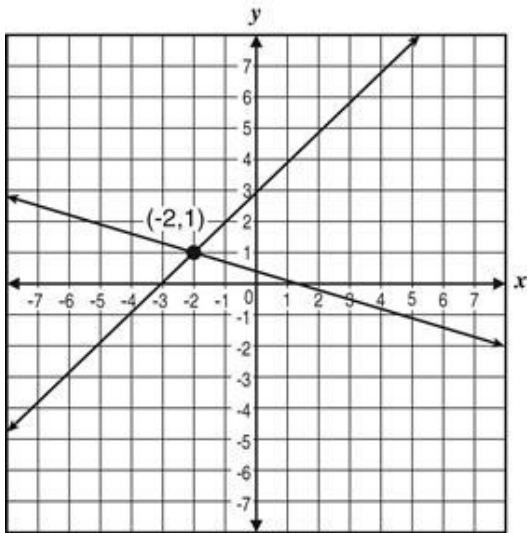
B.



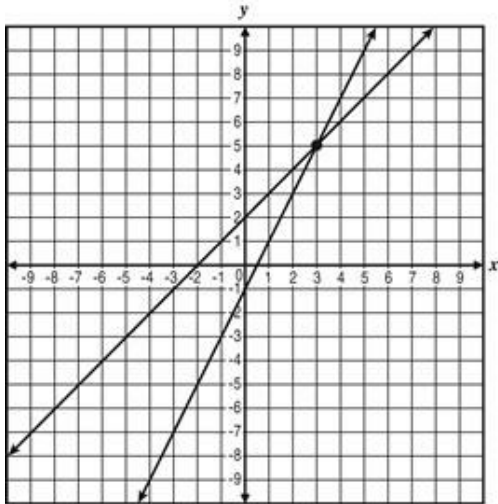
C.



D.



120. The system of equations $y - x = 2$ is graphed below.
 $y = 2x - 1$



What is the solution of this system of equations?

- A. (5, 3)
- B. (3, 5)
- C. (0, 2)
- D. (-2, 0)

121. What value of x satisfies the system of equations below?

$$x + y = 2$$

$$7x - y = 2$$

- A. 0
- B. $\frac{1}{2}$
- C. $\frac{2}{3}$
- D. 2

122. What is the y -coordinate of the point of intersection for these two lines?

$$\begin{cases} 4x - y = 6 \\ -3x + y = 5 \end{cases}$$

- A. 50
- B. 38
- C. 11
- D. -38

123. If $2a + 14 = b$ and $4a - 6 = 2b$, which equation can be used to find the value of a ?

- A. $\frac{2a+14}{2} = 4a - 6$
- B. $\frac{2a+14}{2} = \frac{4a-6}{2}$
- C. $2(2a + 14) = 4a - 6$
- D. $2a + 14 = 2(4a - 6)$

124. A system of equations is shown below.

$$\begin{aligned} x + 7y &= 23 \\ 3x + 14y &= 48 \end{aligned}$$

What is the value of $x + y$ in the solution to the system?

- A. 5
- B. 1
- C. -1
- D. -5

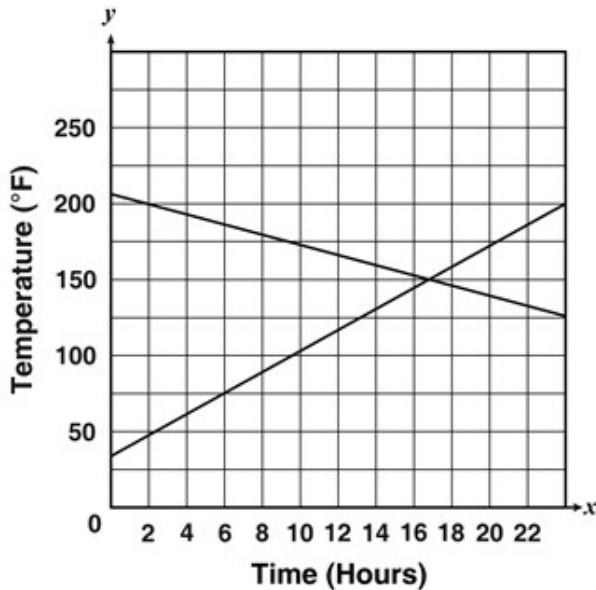
125. A store sells a 4-pound mixture of plain and spinach noodles for \$1.20 per pound. Plain noodles sell for \$0.75 per pound. Spinach noodles sell for \$1.75 per pound. How much of each type of noodle was used to make the mixture?
- A. 1.8 pounds of plain noodles and 2.2 pounds of spinach noodles
 - B. 2 pounds of plain noodles and 2 pounds of spinach noodles
 - C. 2.2 pounds of plain noodles and 1.8 pounds of spinach noodles
 - D. 3 pounds of plain noodles and 1 pound of spinach noodles
126. Ron bought 8 pencils and 2 erasers for \$1.66. Sarah bought 12 pencils and 5 erasers for \$3.19. What is the cost for 1 pencil and 1 eraser?
- A. \$0.25
 - B. \$0.31
 - C. \$0.32
 - D. \$0.47

127. What is the point of intersection of the graphs of the lines represented by the system of equations?

$$\begin{cases} y = -3x - 1 \\ y = x + 7 \end{cases}$$

- A. (-2, -7)
- B. (-2, 5)
- C. (2, -7)
- D. (2, 5)

128. A boiling pot of water (212°F) is cooling at a rate of 3.5 degrees per hour. A second pot is heated from freezing (32°F) at a rate of 7 degrees per hour.



Based on the graph, what is the water's temperature when the two pots are equal?

- A. 7°F
 - B. 17°F
 - C. 150°F
 - D. 212°F
129. What is the y-coordinate of the point of intersection for the two lines given below?

$$\begin{cases} 2x - y = 10 \\ -3x + y = -2 \end{cases}$$

- A. -26
 - B. -8
 - C. -6
 - D. 22
130. A metal alloy is 30% copper. Another metal alloy is 55% copper. How much of each alloy should be used to make 800 grams of a metal alloy that is 40% copper?
- A. 480 grams of the 30% copper alloy and 320 grams of the 55% copper alloy
 - B. 460 grams of the 30% copper alloy and 340 grams of the 55% copper alloy
 - C. 440 grams of the 30% copper alloy and 360 grams of the 55% copper alloy
 - D. 420 grams of the 30% copper alloy and 380 grams of the 55% copper alloy

131. Amelia correctly began solving the system of equations.

$$\begin{cases} x + y = 5 \\ 3x + y = 5 \end{cases}$$

First, she multiplied the second equation by a -1 . Then she added the first equation with the new second equation. What does Amelia already know about the solution of this system of equations, even if she does not complete the next step?

- A. It has infinite solutions.
- B. There is no solution.
- C. The value of x is 0.
- D. The value of y is 0.

132. A system of equations is shown below.

$$\begin{aligned} 5y + 15x &= 10 \\ y - 3x &= 8 \end{aligned}$$

What is the y -value in the solution to the system?

- A. -1
- B. 0
- C. 1
- D. 5

133. At the same store, Leigh bought 2 pairs of pants and 5 shirts for \$61, and Jessica bought 3 pairs of pants and 2 shirts for \$64. How much does 1 pair of pants cost?

- A. \$5.00
- B. \$9.00
- C. \$10.00
- D. \$18.00

134. Look at the system of equations below.

$$5a + 3b = 11$$

$$-2a + 3 = b$$

What is the value of b for the solution to this system of equations?

- A. -7
- B. -2
- C. 2
- D. 7

135. A system of equations is shown below.

$$\begin{cases} 4x - 5y = -10 \\ 2x - 7y = 4 \end{cases}$$

Which operations on the system of equations will isolate the y quantity?

- A. Multiply the second equation by 2 and add the result to the first equation.
- B. Multiply the second equation by -2 and add the result to the first equation.
- C. Multiply the first equation by 7 and the second equation by -5 and add the resulting equations.
- D. Multiply the first equation by -7 and the second equation by -5 and add the resulting equations.

136. Marcus is considering two car rental plans. Plan A can be modeled with the equation $C = 30d$, and Plan B can be modeled with the equation $C = 25d + 15$, where C represents the cost in dollars and d represents the number of days a car is rented. Which statement would justify selecting Plan B instead of Plan A?

- A. Marcus rents a car for 1 day.
- B. Marcus rents a car for 2 days.
- C. Marcus rents a car for 3 days.
- D. Marcus rents a car for 5 days.

137. A system of equations is shown below.

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

Which operations on the system of equations could be used to eliminate the x variable?

- A. Divide the first equation by 2 and add the result to the first equation.
- B. Divide the first equation by -4 and add the result to the first equation.
- C. Multiply the second equation by 4 and add the result to the first equation.
- D. Multiply the second equation by -2 and add the result to the first equation.

138. What is the solution to the system of equations shown below?

$$y = 6x - 9$$

$$8x + 6y = 12$$

- A. $(0, -9)$
- B. $(0.5, -6)$
- C. $(1, -3)$
- D. $(1.5, 0)$

139. What is the solution to the system of equations?

$$\begin{cases} 2x + 9y = 13 \\ 4x - 9y = -1 \end{cases}$$

- A. $\left(-6, \frac{25}{9}\right)$
- B. $(2, 1)$
- C. $\left(6, \frac{1}{9}\right)$
- D. $(7, 3)$

140. Going upstream, a boat can travel 15 miles in 3 hours. Going downstream, it can travel 22 miles in 2 hours. What is the rate of the boat in still water and the rate of the water current?

- A. boat 3 mph, current 8 mph
- B. boat 5 mph, current 11 mph
- C. boat 8 mph, current 3 mph
- D. boat 11 mph, current 5 mph

141. A system of equations is shown below.

$$\begin{aligned} y &= 3x + 4 \\ y &= 7x - 2 \end{aligned}$$

What is the solution to the system?

- A. $(0.5, 3)$
- B. $(1.5, 8.5)$
- C. $(8.5, 1.5)$
- D. $(9.5, 3)$

142. What are the solutions to the system of equations shown below?

$$\begin{cases} 7x - 5y = 38 \\ 2x + 10y = -12 \end{cases}$$

- A. $x = 4, y = -2$
- B. $x = 2, y = -4$
- C. $x = -2, y = 4$
- D. $x = -4, y = 2$

143. Look at the system of equations.

$$\begin{aligned} y &= 4x + 6 \\ y &= 3x + 19 \end{aligned}$$

What is the x-coordinate of the solution to the system?

- A. 58
- B. 13
- C. -13
- D. -58

144. Taylor bought 2 hotdogs and 2 sodas for \$3.50. Jacob bought 3 hotdogs and 1 soda for \$4.25. What is the cost of 1 soda?

- A. \$0.25
- B. \$0.50
- C. \$1.25
- D. \$1.50

145. What is the point of intersection of the graphs of the lines represented by the system of equations?

$$\begin{cases} y = 3x - 6 \\ y = x - 10 \end{cases}$$

- A. $(-2, -12)$
- B. $(-2, 0)$
- C. $(1, -9)$
- D. $(8, 18)$

146. What is the solution to the system of equations below?

$$\begin{cases} y = 3x - 27 \\ y = 2x - 7 \end{cases}$$

- A. (4, -15)
- B. (4, 1)
- C. (20, 33)
- D. (20, 47)

147. What is the x-coordinate of the point of intersection for the two lines below?

$$\begin{aligned} -7x + 6y &= 19 \\ 5x - 4y &= 11 \end{aligned}$$

- A. -86
- B. -71
- C. 71
- D. 86

148. A small company has one color printer and one black-and-white printer, each printing at different rates. The color printer, working for 5 minutes and the black-and-white printer, working for 3 minutes print a total of 70 pages. When the black-and-white printer worked for 6 minutes and the color printer worked for 9 minutes, they printed a total of 135 pages.

This situation is represented by the equations below, where b represents the number of pages per minute printed by the black-and-white printer and c represents the number of pages per minute printed by the color printer.

$$\begin{aligned} 3b + 5c &= 70 \\ 6b + 9c &= 135 \end{aligned}$$

How many pages per minute does the black-and-white printer print?

- A. 11
- B. 12
- C. 15
- D. 18

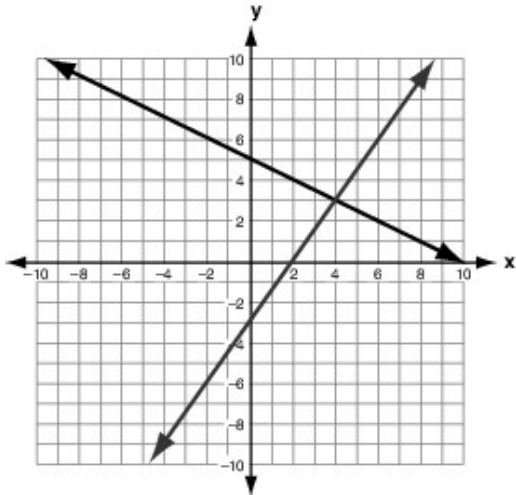
149. Two cars leave Charlotte at the same time.

- One car is moving east and the other west.
- After 4 hours, the cars are 456 miles apart.
- One car is traveling 10 miles per hour faster than the other.

What is the speed of the slower-moving car?

- A. 47 miles per hour
- B. 52 miles per hour
- C. 62 miles per hour
- D. 67 miles per hour

150. The graph below represents a system of linear equations.



Based on the graph, which is the apparent solution to the system of equations?

- A. (0, 5)
- B. (2, 0)
- C. (3, 4)
- D. (4, 3)

151. Karen paid \$1.20 for 6 pencils and 4 erasers at the school store. Trey paid \$1.10 for 8 pencils and 2 erasers at the school store. How much does an eraser cost?

- A. \$0.08
- B. \$0.10
- C. \$0.15
- D. \$0.18

152. Laura needs 60 liters of a 55% alcohol solution. She has available a 25% alcohol solution and a 70% alcohol solution. How many liters of each solution should she mix together to obtain 60 liters of a 55% alcohol solution?
- A. 15 liters of the 25% solution and 45 liters of the 70% solution
 - B. 20 liters of the 25% solution and 40 liters of the 70% solution
 - C. 40 liters of the 25% solution and 20 liters of the 70% solution
 - D. 45 liters of the 25% solution and 15 liters of the 70% solution

153. What is the solution for the system of linear equations?

$$\begin{cases} 3x = 3 + y \\ y = 5 - x \end{cases}$$

- A. (2, 3)
 - B. (3, 2)
 - C. (-1, 6)
 - D. (6, -1)
154. What is the x-coordinate of the point of intersection for the two lines?

$$\begin{aligned} -2x + 6y &= 0 \\ x - 4y &= 3 \end{aligned}$$

- A. -9
 - B. -3
 - C. 3
 - D. 9
155. A hardware store sells screws and bolts.
- For 8 screws and 4 bolts, the cost is \$1.12.
 - For 9 screws and 6 bolts, the cost is \$1.44.

How much does 1 bolt cost?

- A. \$0.04
- B. \$0.12
- C. \$0.15
- D. \$0.20

156. What is the y -coordinate for the solution of the system of equations below?

$$3x + 8y = 9$$

$$5x + 10y = 5$$

- A. 5
- B. 3
- C. -3
- D. -5

157. At a portrait studio, three 8-inch-by-10-inch pictures and two 5-inch-by-7-inch pictures cost a total of \$52. Two 8-inch-by-10-inch pictures and two 5-inch-by-7-inch pictures cost a total of \$40. This situation can be represented by the system of equations, where x is the cost in dollars of each 8-inch-by-10-inch picture and y is the cost in dollars of each 5-inch-by-7-inch picture.

$$3x + 2y = 52$$

$$2x + 2y = 40$$

What is the cost of one 5-inch-by-7-inch picture?

- A. \$8
- B. \$10
- C. \$12
- D. \$16

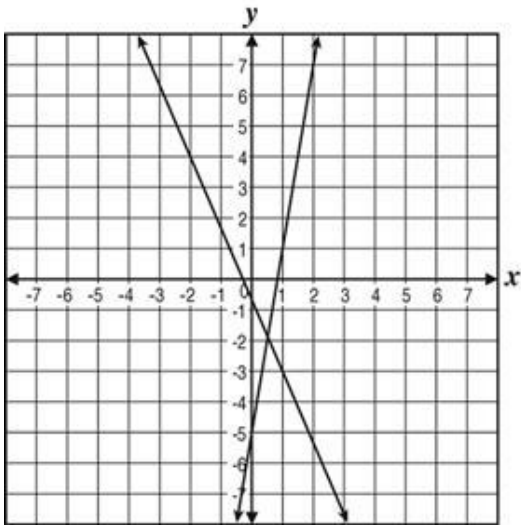
158. John bought 8 hot dogs and 5 sodas for \$25.50. Alicia bought 4 hot dogs and 3 sodas for \$13.50. How much would 1 hot dog and 1 soda cost?

- A. \$4.50
- B. \$4.25
- C. \$4.00
- D. \$3.75

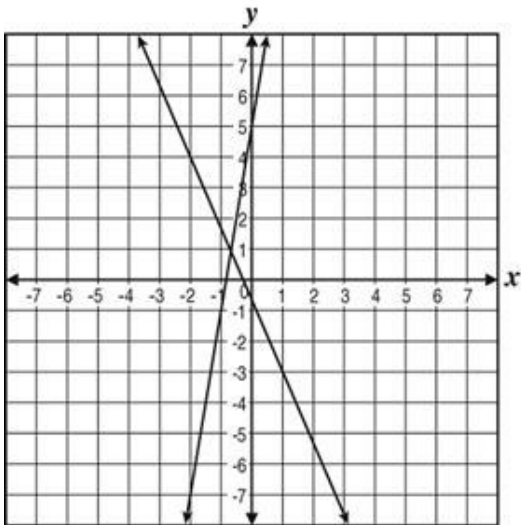
159. Which graph shows the solution of this system of equations?

$$\begin{cases} 6x - y = -5 \\ 7x + 3y = -2 \end{cases}$$

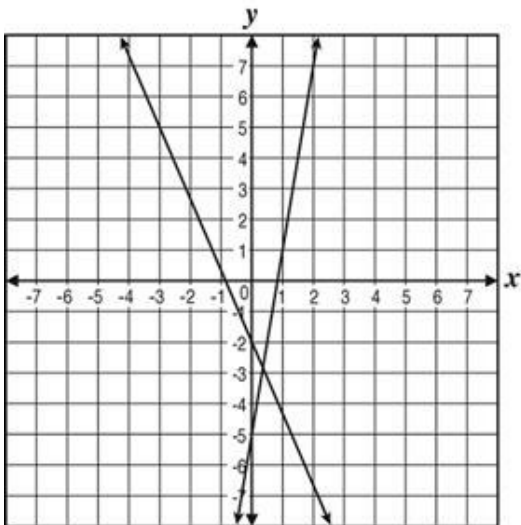
A.



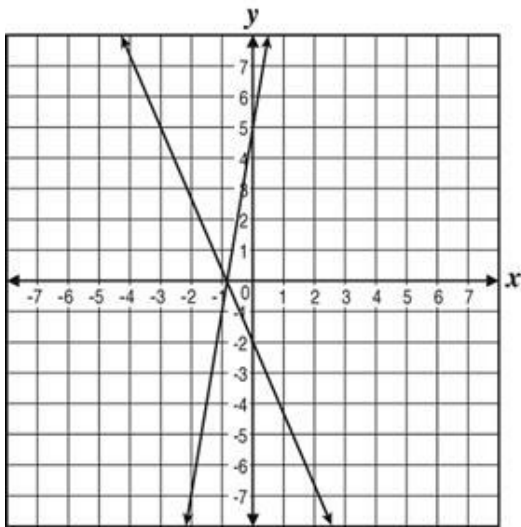
B.



C.



D.



160. A 140-meter rope is cut into two pieces. One piece is 20 meters longer than 3 times the other piece. How long is the smaller of the two pieces?

- A. 20 meters
- B. 30 meters
- C. 40 meters
- D. 50 meters

161. Kaitlyn bought 2 pieces of gum and 3 candy bars for \$3.25. Jordan bought 4 pieces of gum and 1 candy bar for \$2.75 at the same store. What is the cost of 1 piece of gum and 1 candy bar?

- A. \$0.25
- B. \$0.50
- C. \$0.75
- D. \$1.25

162. What is the y-coordinate of the point of intersection for the two lines given below?

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

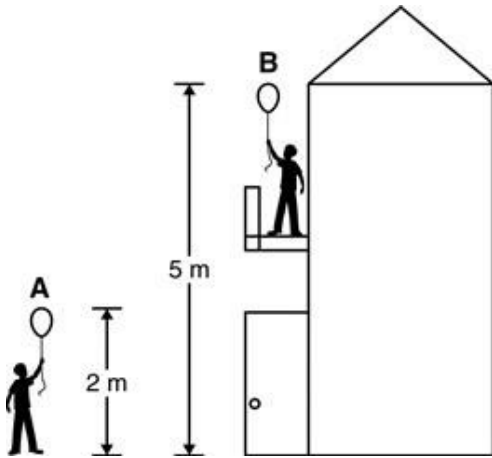
- A. -14
- B. -3
- C. -2
- D. 4

163. Balloon A was released 2 meters from the ground, and it traveled straight up at a rate of 4 meters per minute. Balloon B was released at the same time 5 meters from the ground, and it traveled straight up at a

rate of 3 meters per minute. Both balloons continued to travel straight up at constant speed with no interruptions. The following equations represent this information.

Balloon A: $y = 4x + 2$

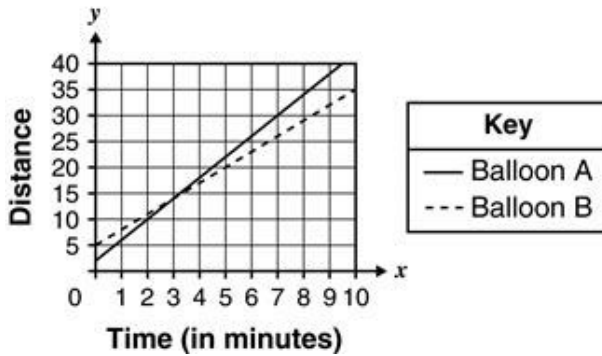
Balloon B: $y = 3x + 5$



The balloons are at the same height after 3 minutes. Which graph correctly represents the heights of the balloons?

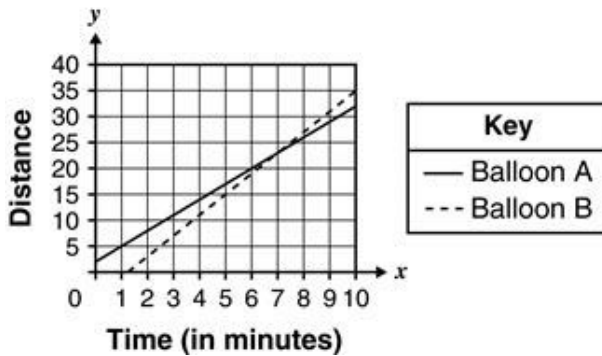
A.

Balloon Ascent

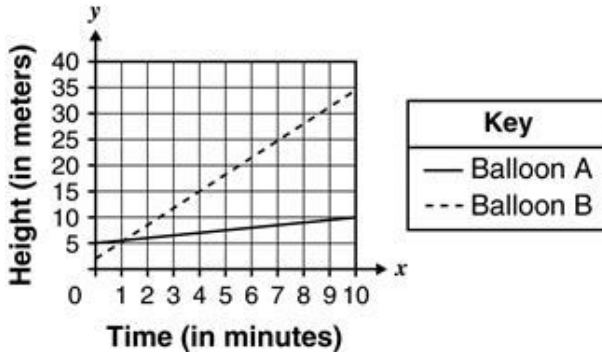


B.

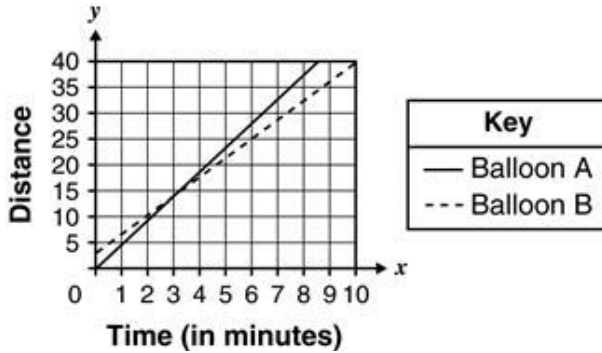
Balloon Ascent



C. **Balloon Ascent**



D. **Balloon Ascent**



164. What is the x-coordinate of the solution to the system of linear equations?

$$x = 3y - 8$$

$$2x + 26 = y$$

- A. $x = -2$
- B. $x = -3.6$
- C. $x = -14$
- D. $x = -15.6$

165. Which two steps should be used first in solving the system of equations by substitution?

$$\begin{cases} 6y - 4x = 22 \\ y + 2x = 9 \end{cases}$$

- A. Multiply the first equation by 4 and the second equation by 2.
- B. Substitute 9 for y in the first equation and then solve the other equation for x.
- C. Solve the second equation for y and then substitute this value into the first equation.
- D. Subtract the terms in the second equation from the first equation and then solve for y.

166. One side of the triangle lies on the line $5x - y = 1$. A second side of the same triangle lies on the line $2x + 3y = 31$. What point represents the vertex between the two sides?

- A. (2, 9)
- B. (4, 9)
- C. (4, 27)
- D. (10, 9)

167. A metal alloy is 35% copper. Another metal alloy is 50% copper. How much of each alloy should be used to make 600 grams of a metal alloy that is 45% copper?

- A. 180 grams of the 35% copper alloy and 420 grams of the 50% copper alloy
- B. 190 grams of the 35% copper alloy and 410 grams of the 50% copper alloy
- C. 200 grams of the 35% copper alloy and 400 grams of the 50% copper alloy
- D. 210 grams of the 35% copper alloy and 390 grams of the 50% copper alloy

168. A store sells jars of peanut butter that cost p dollars and jars of jelly that cost j dollars.

- Winston purchased 3 jars of peanut butter and 2 jars of jelly for \$11.50.
- Peter purchased 2 jars of peanut butter and 4 jars of jelly for \$13.00.

How much does 1 jar of peanut butter cost?

- A. \$2.00
- B. \$2.50
- C. \$3.00
- D. \$3.50

169. The substitution method will be used to solve this system of equations.

$$\begin{cases} x + 2y = 7 \\ 2x - 7y = 3 \end{cases}$$

Which equation would lead to a correct solution with this method?

- A. $(7 - 2y) + 2y = 7$
- B. $(7 + 2y) + 2y = 7$
- C. $2(7 - 2y) - 7y = 3$
- D. $2(7 + 2y) - 7y = 3$

170. Sheila bought several bags of balloons and boxes of candles. The candles cost \$15 per box, and the balloons cost \$8 per bag. She bought a total of 17 bags and boxes and paid a total of \$192. How many bags of balloons did Sheila buy?

- A. 6
- B. 7
- C. 8
- D. 9

171. A system of equations is shown below.

$$\begin{aligned} 3y &= -2x + 4 \\ x &= 2y - 5 \end{aligned}$$

What is the solution to the system of equations?

- A. $(-1, -2)$
- B. $(2, 1)$
- C. $(-2, 1)$
- D. $(-1, 2)$

172. A system of equations is shown below.

$$\begin{aligned} 2x + 3y &= 4 \\ x - 2y &= -5 \end{aligned}$$

What is the solution to the system?

- A. $\left(\frac{-1}{7}, \frac{10}{7}\right)$
- B. $(-1, 2)$
- C. $(23, -14)$
- D. $\left(\frac{23}{7}, \frac{-6}{7}\right)$

173. A system of equations is shown below.

$$\begin{aligned}7x - 4y &= 0 \\ 2x + 7y &= 57\end{aligned}$$

What is the y -value in the solution to the system?

- A. 0
- B. 2
- C. 4
- D. 7

174. Look at the system of equations below.

$$-4a + 6b = 0$$

$$a + 2 = b$$

What is the value of b for the solution to this system of equations?

- A. 6
- B. 4
- C. -4
- D. -6

175. A system of equations is shown below.

$$\begin{aligned}y &= 2x + 1 \\ 3x + 2y &= -5\end{aligned}$$

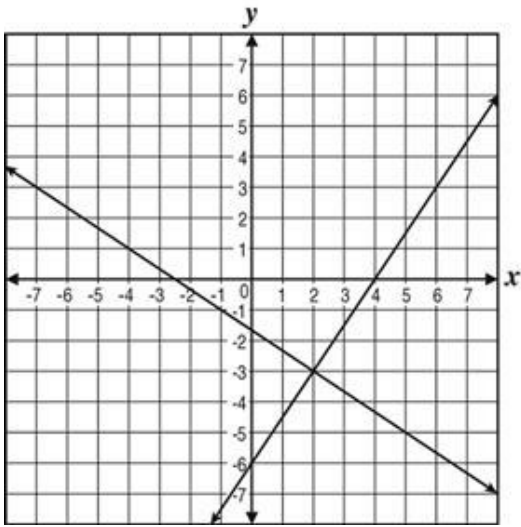
What is the solution to the system?

- A. $(-1, -1)$
- B. $(0, 1)$
- C. $(1, -4)$
- D. $(2, 5)$

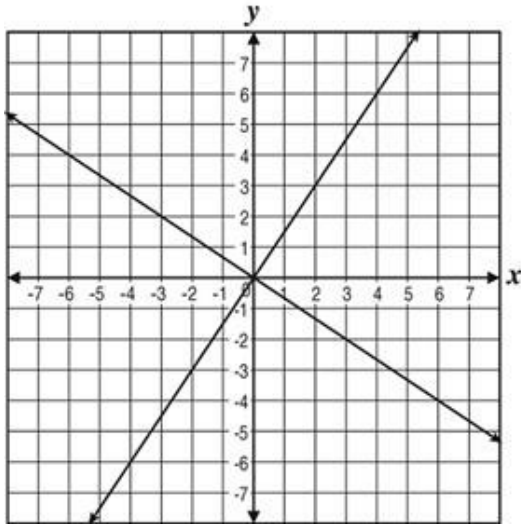
176. Which graph represents the solution to the system of equations shown below?

$$\begin{cases} 2x + 3y = 0 \\ 3x - 2y = 0 \end{cases}$$

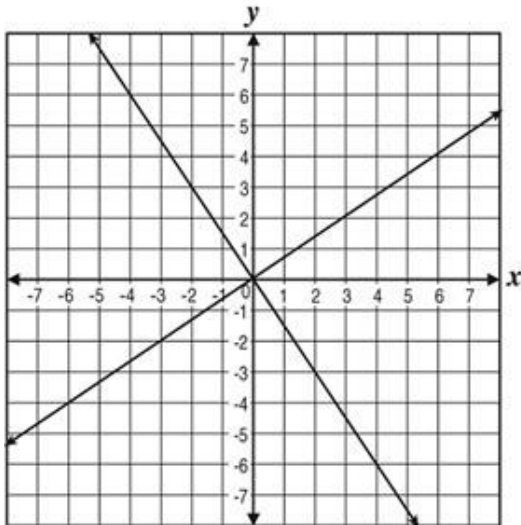
A.



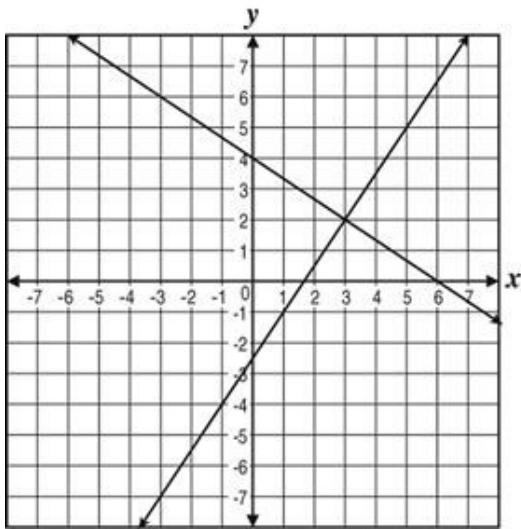
B.



C.



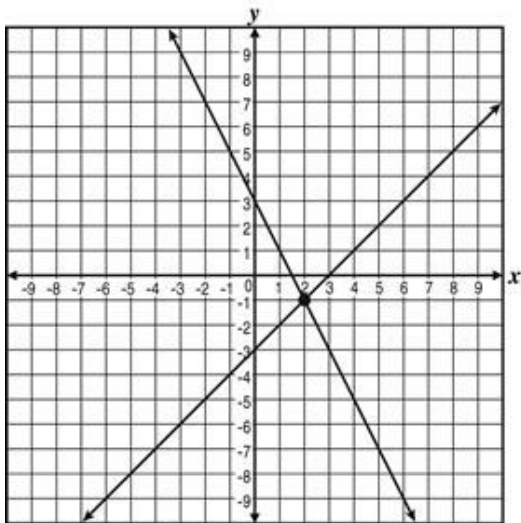
D.



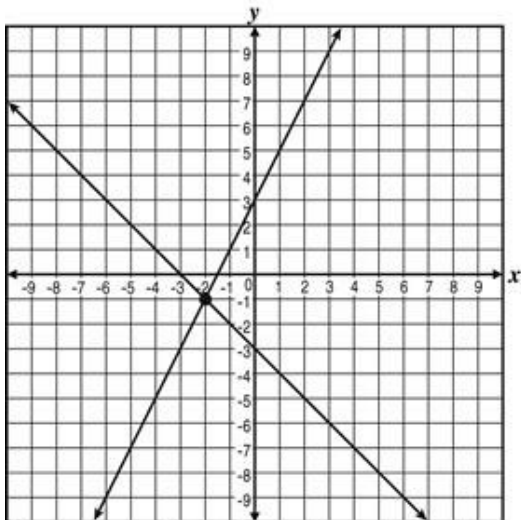
177. What graph represents the solution to this system of linear equations?

$$\begin{cases} y = 2x - 3 \\ y = -x + 3 \end{cases}$$

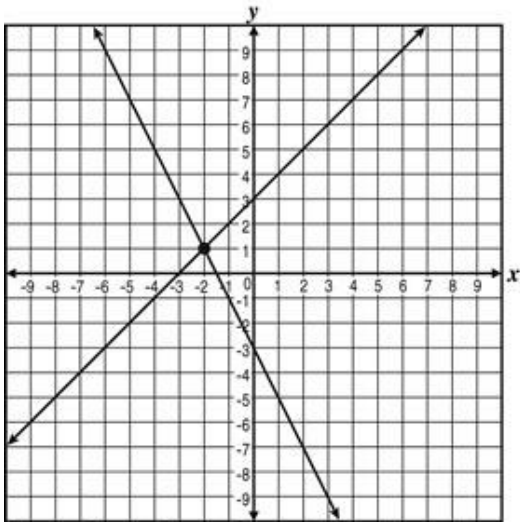
A.



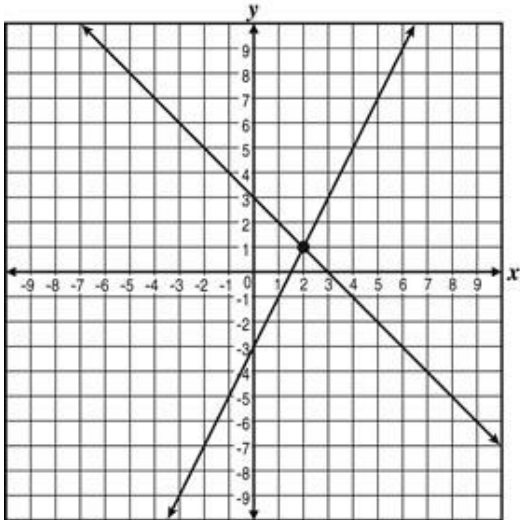
B.



C.



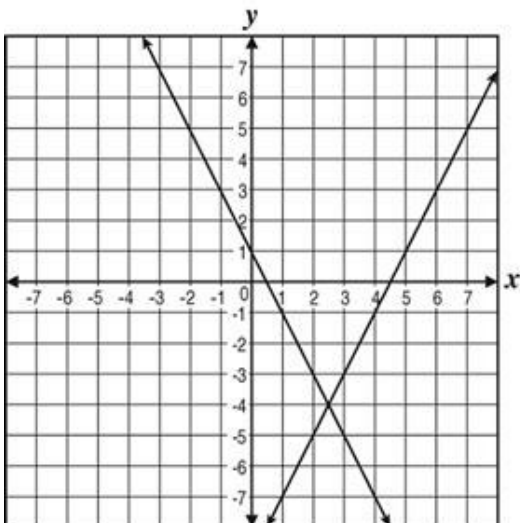
D.



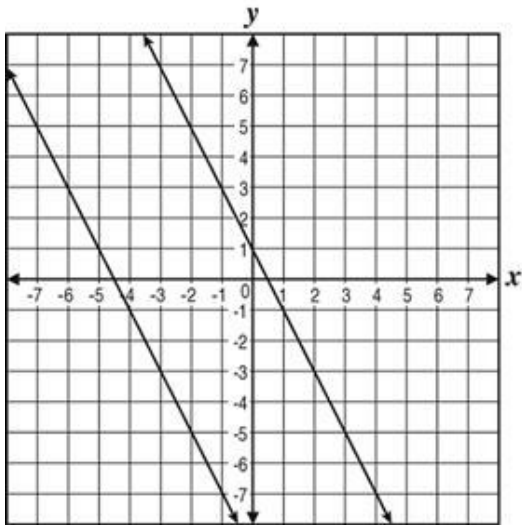
178. Which graph shows the solution of this system of equations?

$$\begin{cases} 2x - y = 9 \\ 2x + y = 1 \end{cases}$$

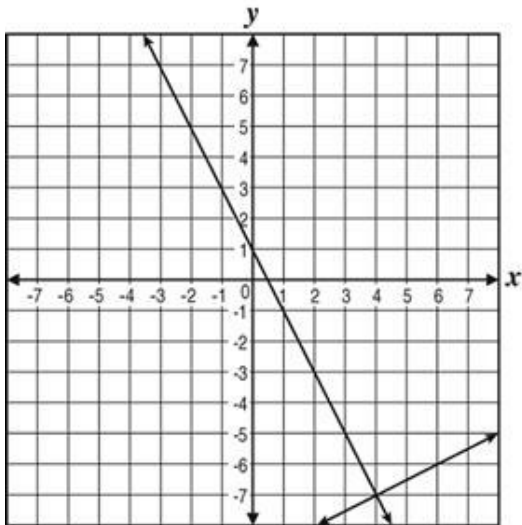
A.



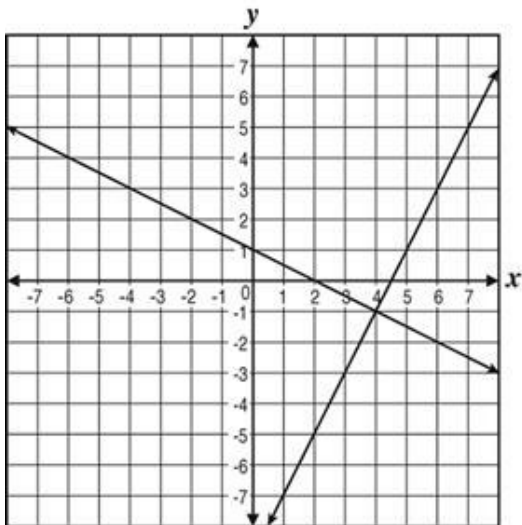
B.



C.



D.



179. Look at the system of equations below.

$$10a + 4b = 18$$

$$7a + 14 = b$$

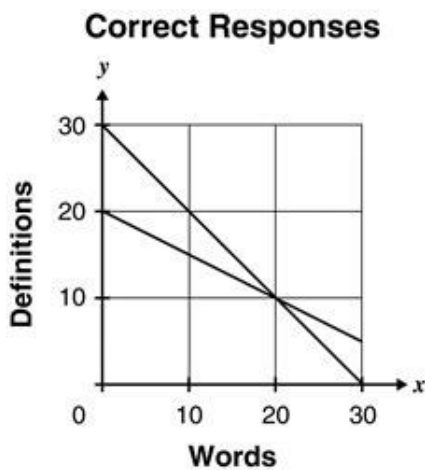
What is the value of b for the solution to this system of equations?

- A. 7
- B. 1
- C. -1
- D. -7

180. On a quiz, Tom received 2 points for each correct spelling word, and 4 points for each correct definition. Tom received 80 points for a total of 30 correct responses. The equations and graph below can be used to determine the number of Tom's correct responses, where x represents the number of correct spelling words and y represents the number of correct definitions.

Correct responses: $x + y = 30$

Total points: $2x + 4y = 80$



How many words and how many definitions did Tom get correct?

- A. 10 words and 20 definitions
- B. 20 words and 10 definitions
- C. 30 words and 20 definitions
- D. 30 words and 30 definitions

181. Look at this system of equations.

$$-5a + 4b = -2$$

$$8a + 13 = b$$

What is the value of b for the solution to this system of equations?

- A. 3
- B. 2
- C. -2
- D. -3

182. A system of equations is shown below.

$$2x + 3y = 8$$

$$x + 2y = 8$$

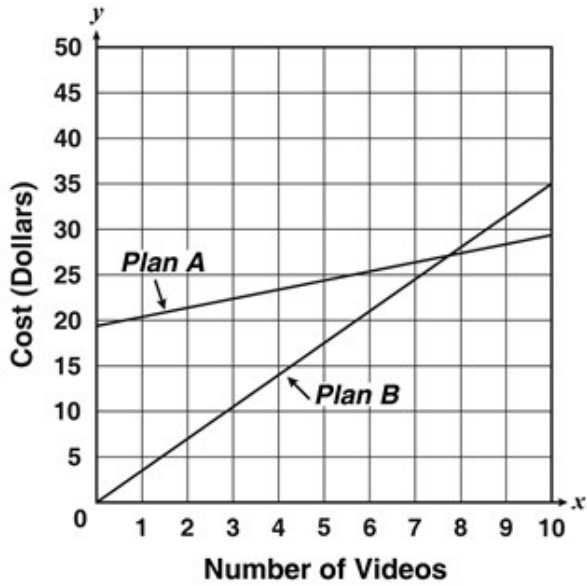
What is the solution to the system?

- A. $(-8, 8)$
- B. $(-2, -3)$
- C. $(2, 3)$
- D. $(8, -8)$

183. The system of equations $3x + 2y = 4$ and $5x + 4y = 6$ has the solutions $x = a$ and $y = b$. What is the value of $2a + b$?

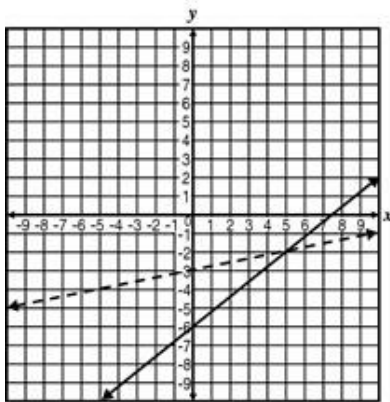
- A. 3
- B. 1
- C. 0
- D. -6

184. Chelsea can choose from 2 plans for streaming videos to her television. Plan A costs \$19.95 initially and has a charge of \$1.00 per video. Plan B has no initial charge and has a charge of \$3.50 per video. The equation for each plan is graphed in the coordinate plane.



Based on the graph, what is the minimum number of videos Chelsea should stream so that the cost of Plan A is less than Plan B?

- A. 8
 - B. 10
 - C. 20
 - D. 28
185. The following shows the graphs of $y = 0.2x - 3$ and $y = 0.8x - 6$.



Key	
—	$y = 0.8x - 6$
- - - -	$y = 0.2x - 3$

What is the solution set to $0.2x - 3 > 0.8x - 6$?

- A. $x < -2$
- B. $x > -2$
- C. $x < 5$
- D. $x > 5$

186. A system of equations is shown below.

$$\begin{aligned} 3x + 2y &= 15 \\ 2x - 10 &= y \end{aligned}$$

What is the solution to the system?

- A. $(5, -20)$
- B. $(-5, -20)$
- C. $(-35, -80)$
- D. $(5, 0)$

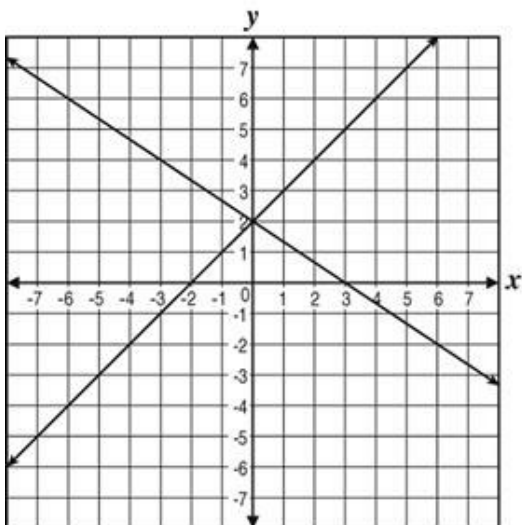
187. Maria purchased 2 pairs of earrings and 4 necklaces for \$29.00. Kelly purchased 3 pairs of earrings and 2 necklaces for \$21.50. How much would 1 pair of earrings and 3 necklaces cost?

- A. \$14.50
- B. \$16.00
- C. \$20.00
- D. \$21.50

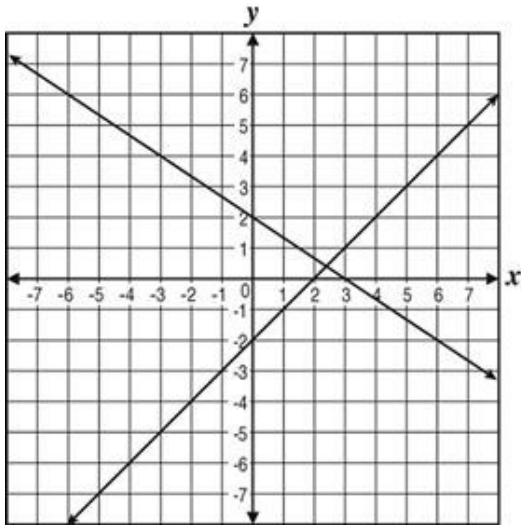
188. Which graph can be used to find the solution of this system of equations?

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

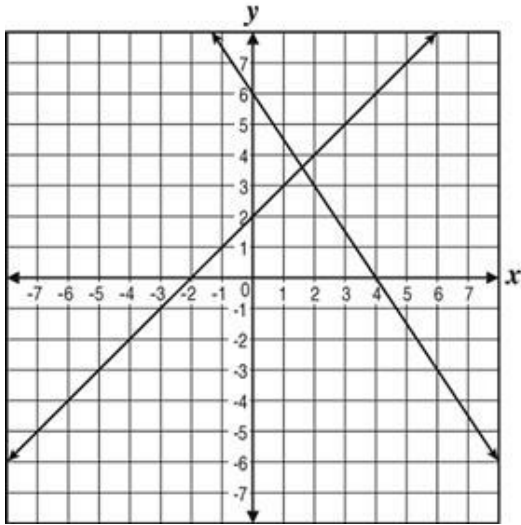
A.



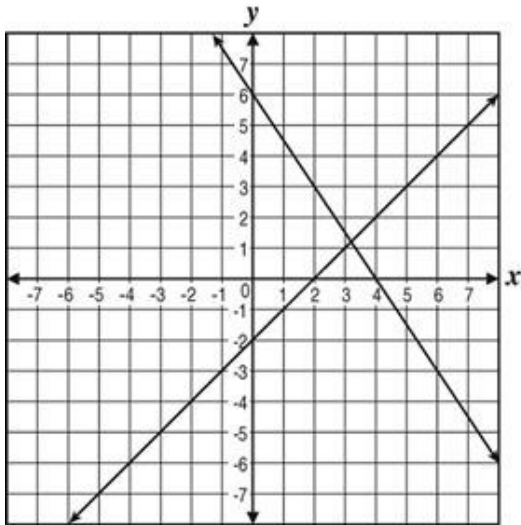
B.



C.



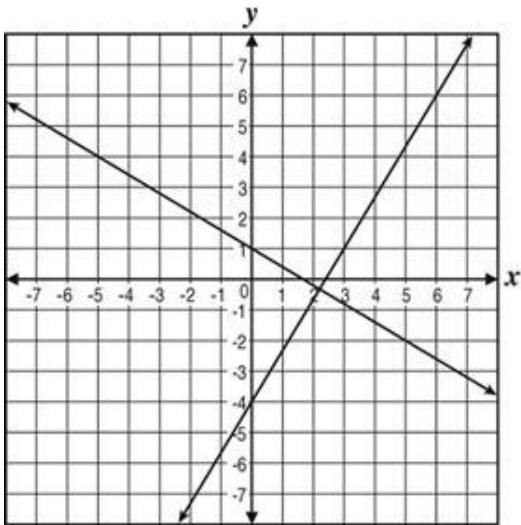
D.



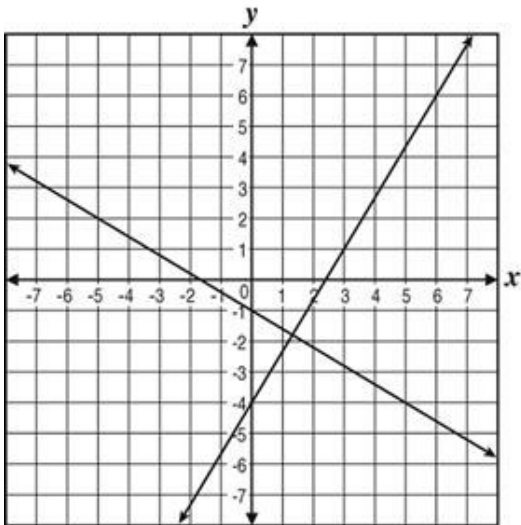
189. Which graph shows the solution of this system of equations?

$$\begin{cases} 5x - 3y = -12 \\ 3x + 5y = 5 \end{cases}$$

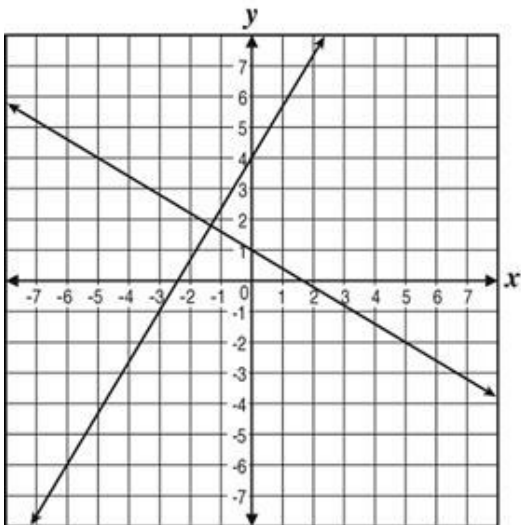
A.



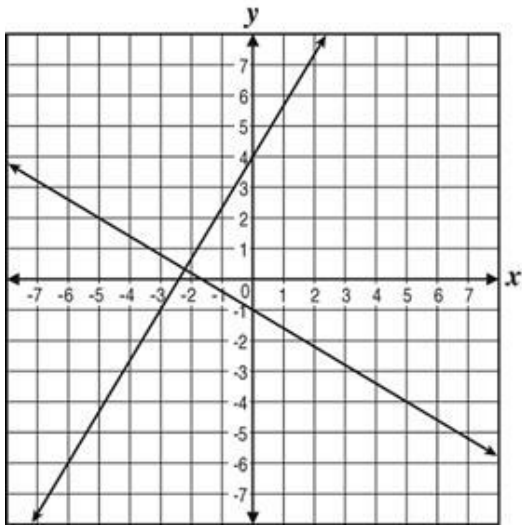
B.



C.



D.



190. What value of x satisfies the system of equations below?

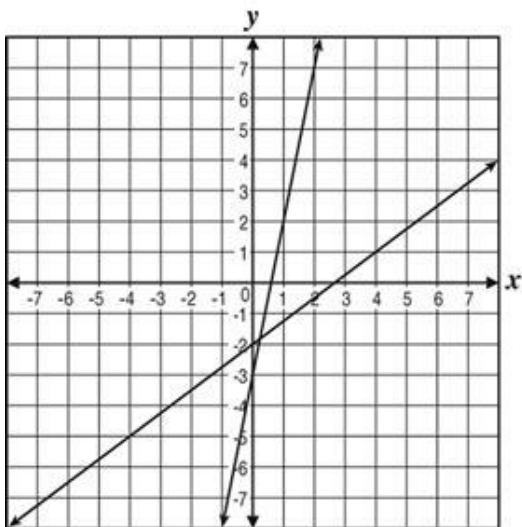
$$\begin{aligned}x + 2y &= 11 \\ 4x - y &= 8\end{aligned}$$

- A. 1
- B. 3
- C. $\frac{5}{9}$
- D. $\frac{19}{9}$

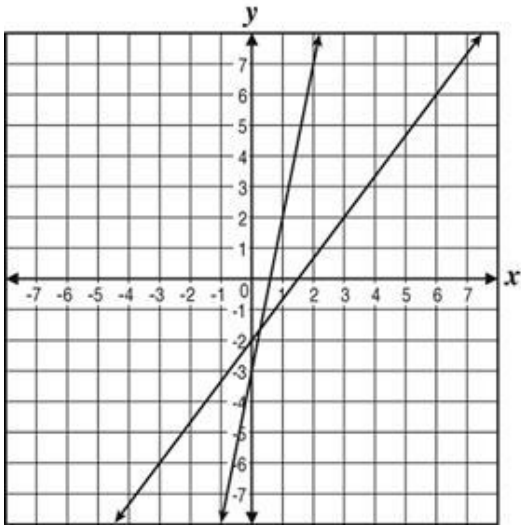
191. Which graph shows the solution of this system of equations?

$$\begin{cases} 5x + y = -3 \\ y = \frac{3}{4}x - 2 \end{cases}$$

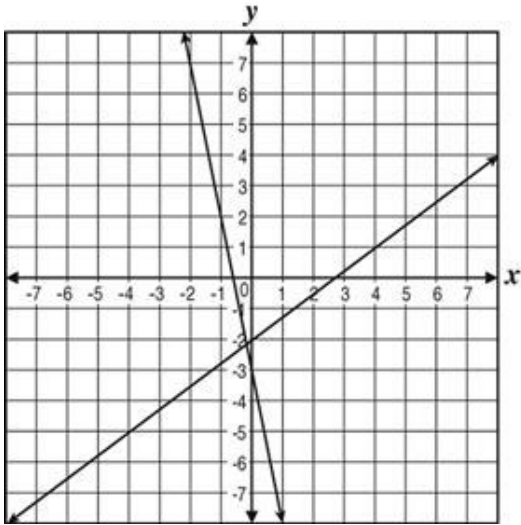
A.



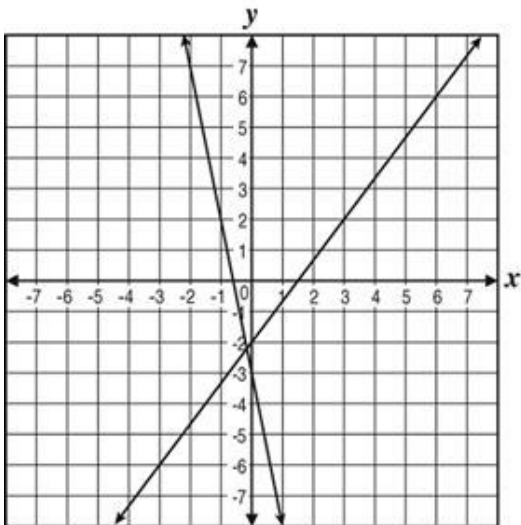
B.



C.



D.



192. What is the solution to the following system of equations?

$$\begin{cases} 3x + 2y = 30 \\ y = x + 5 \end{cases}$$

- A. (1, 6)
- B. (4, 9)
- C. (5, 10)
- D. (8, 13)

193. A store sells pencils and erasers.

- 5 pencils and 10 erasers cost \$1.05.
- 2 pencils and 5 erasers cost \$0.44.

How much would 7 pencils and 7 erasers cost?

- A. \$1.49
- B. \$1.33
- C. \$1.19
- D. \$1.03

194. How much of a 12% saline solution should be mixed with a 20% saline solution to obtain 168 ounces of a 15% saline solution?

- A. 84 ounces of 12% and 84 ounces of 20%
- B. 98 ounces of 12% and 70 ounces of 20%
- C. 100 ounces of 12% and 68 ounces of 20%
- D. 105 ounces of 12% and 63 ounces of 20%

195. What value of y makes this system of equations true?

$$\begin{cases} y = 4x - 2 \\ y = 3x - 1 \end{cases}$$

- A. -2
- B. -1
- C. 1
- D. 2

196. On Saturday, Carrie went to the store and bought 4 loaves of bread and 1 gallon of milk for a total of \$12.50. The next weekend, she went to the same store and spent \$11.50 on 2 loaves of bread and 2 gallons of milk. The prices had not changed. What is the price for one gallon of milk?

- A. \$2.25
- B. \$2.50
- C. \$3.50
- D. \$4.80

197. Michael has a jar of dimes and nickels. There are 152 dimes and nickels in the jar that total \$11. If d represents the number of dimes and n represents the number of nickels, which system of equations below represents the situation?

- A.
$$\begin{cases} d+n = 11 \\ 0.05d+0.10n = 152 \end{cases}$$
- B.
$$\begin{cases} d+n = 11 \\ 0.10d+0.5n = 152 \end{cases}$$
- C.
$$\begin{cases} d+n = 152 \\ 0.05d+0.10n = 11 \end{cases}$$
- D.
$$\begin{cases} d+n = 152 \\ 0.10d+0.05n = 11 \end{cases}$$

198. What is the x -coordinate of the point of intersection for the two lines below?

$$\begin{aligned} -6x + 7y &= 20 \\ 2x - 3y &= 4 \end{aligned}$$

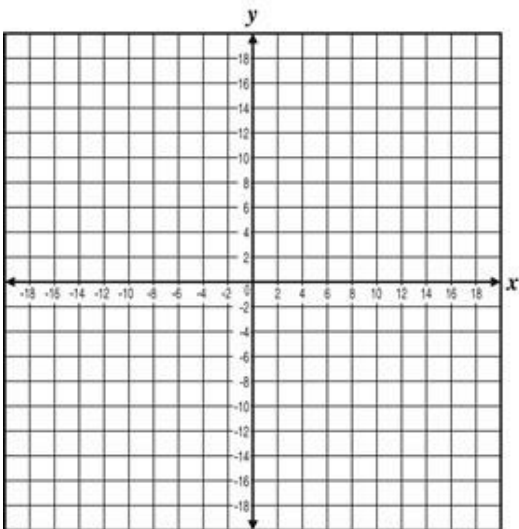
- A. -22
- B. -16
- C. 16
- D. 22

199. A barbershop purchased 15 hair brushes and 5 blow dryers for \$215. The barbershop then purchased 5 more hair brushes and 7 more blow dryers from the same company for \$189. How much does one blow dryer cost?

- A. \$7
- B. \$17
- C. \$22
- D. \$26

200. These are equations for two distinct lines.

$$\begin{cases} y = -2x + 11 \\ y = x - 4 \end{cases}$$

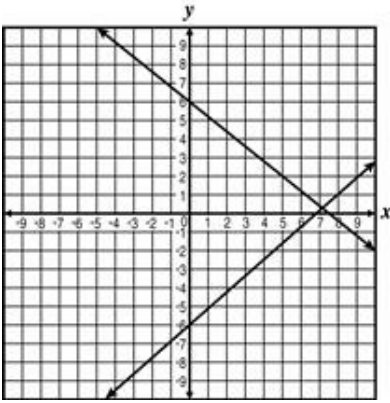


What is the x-coordinate of the point of intersection of the two lines?

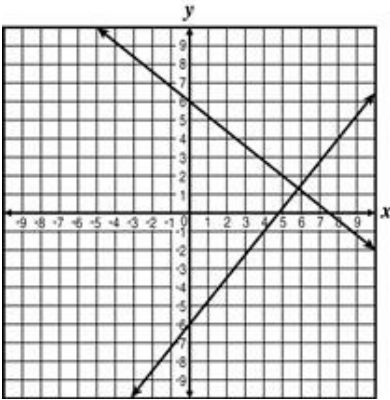
- A. 5
- B. 1
- C. -1
- D. -5

201. Which graph best represents a system of equations with no solution?

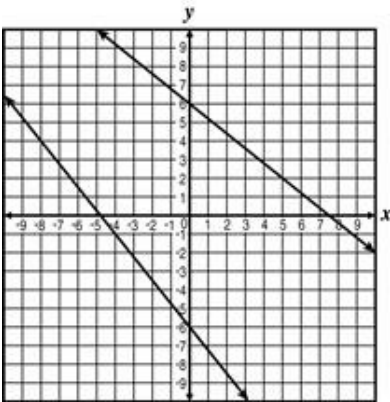
A.



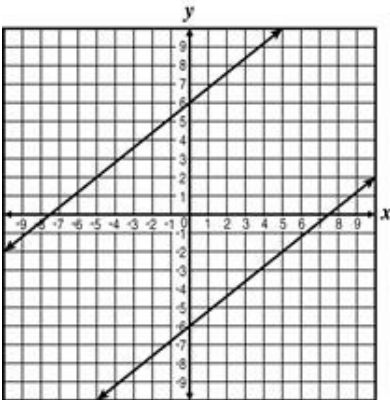
B.



C.



D.



202. A system of equations is shown below.

$$\begin{aligned} 5x - 19 &= -3y \\ -2x - 3y &= -13 \end{aligned}$$

What is the solution to the system of equations?

- A. $(5, 1)$
- B. $\left(4\frac{4}{7}, -1\frac{2}{7}\right)$
- C. $(2, 3)$
- D. $\left(-2, 5\frac{2}{3}\right)$

203. What is the value of y in the solution to the system of equations below?

$$\begin{cases} 4x + 5y = 34 \\ 5x - 10y = -120 \end{cases}$$

- A. -10
- B. -4
- C. 10
- D. 14

204. Marcus buys 2 hamburgers and 3 drinks for \$8.75. Pam buys 4 hamburgers and 2 drinks for \$12.50. How much does 1 hamburger cost?

- A. \$1.25
- B. \$1.75
- C. \$2.25
- D. \$2.50

205. What value of y makes the system of equations below true?

$$\begin{aligned} y &= 9x - 7 \\ y &= 6x - 4 \end{aligned}$$

- A. 2
- B. 1
- C. -1
- D. -2

206. At the school store, 3 pens and 2 notebooks cost a total of \$12, while 1 pen and 3 notebooks cost a total of \$11. This can be represented by the system of equations, where x stands for the cost, in dollars, of pens, and y stands for the cost, in dollars, of notebooks.

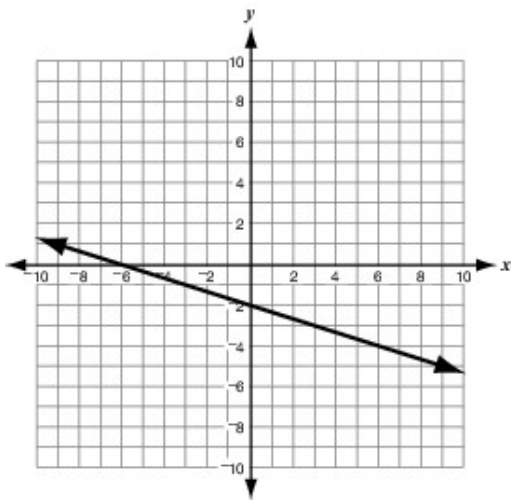
$$3x + 2y = 12$$

$$x + 3y = 11$$

What is the cost of one notebook?

- A. \$2.00
- B. \$2.40
- C. \$2.75
- D. \$3.00

207. What is the solution of the system of equations that contains the equation $-3x - 9y = 18$ and the equation of the line shown on the graph below?



- A. $(0, -2)$
- B. $(-6, 0)$
- C. no solution
- D. infinitely many solutions

208. Jeremy needs to buy soccer supplies for his team. While shopping, he finds a 3-pack of shin guards plus 2 soccer balls on sale for \$48.97. He later finds a 5-pack of shin guards and 3 soccer balls on sale for \$76.45. The representative equations are given below, where x is the cost of each pack of shin guards, and y is the cost of each soccer ball.

$$3x + 2y = 48.97$$

$$5x + 3y = 76.45$$

Excluding taxes, what is the cost of one soccer ball?

- A. \$5.99
 - B. \$6.12
 - C. \$9.55
 - D. \$15.50
209. The sum of two numbers is 41.4. The difference between the two numbers is 7.6. What is the value of the larger of the two numbers?
- A. 13.1
 - B. 16.9
 - C. 24.5
 - D. 28.3
210. A system of equations is shown below.

$$\begin{aligned} 3x - y &= 14 \\ x &= 2y - 2 \end{aligned}$$

What is the solution to the system?

- A. $(4, -2)$
 - B. $(3, -5)$
 - C. $(6, 4)$
 - D. $(4, 3)$
211. A system of equations is shown.

$$\begin{aligned} y &= 5x - 10 \\ 5x + 3y &= 30 \end{aligned}$$

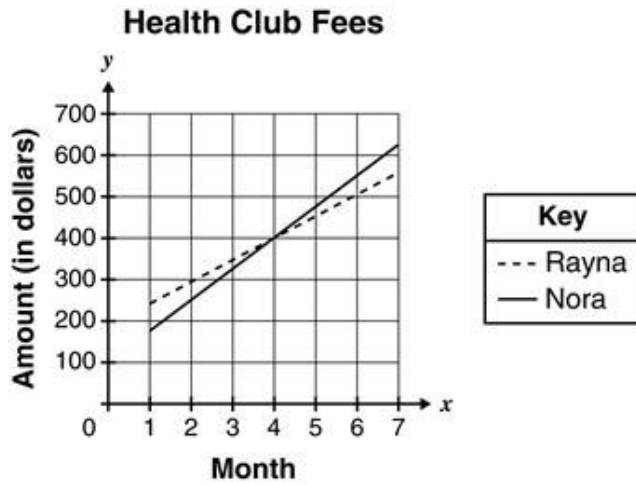
What is the value of x in the solution for the system of equations?

- A. 2
- B. 3
- C. 4
- D. 5

212. Rayna paid a \$200 fee to join a health club and then a \$50 fee per month to use the club. The total amount of money (t) paid can be represented by the equation $t = 200 + 50m$, where m represents the number of months of club use.

Nora paid a \$100 fee to join another health club and then a \$75 fee per month to use the club, which can be represented by the equation $t = 100 + 75m$.

The graph below shows the fees paid by Rayna and Nora.



In what month will both girls have paid an equal amount of money to their health clubs?

- A. Month 1
- B. Month 3
- C. Month 4
- D. Month 5

213. What is the solution for the system of linear equations?

$$\begin{cases} 2x = 11 + y \\ y = 4 - x \end{cases}$$

- A. (1, -5)
- B. (5, -1)
- C. (-1, 5)
- D. (-5, 1)