

Algebra 1 STAAR EOC Review #8
Reporting Category 4: Linear Equations and Inequalities
A.8abc

RC4 A.08A

1. The Frosty Ice-Cream Shop sells sundaes for \$2 and banana splits for \$3. On a hot summer day, the shop sold 8 more sundaes than banana splits and made \$156. Which system of equations could be used to find the number of sundaes, s , and banana splits, b , that the shop sold that day?
 - A. $2s + 3b = 156$
 $s = b + 8$
 - B. $2b + 3s = 156$
 $s + b = 8$
 - C. $2s + 3b = 8$
 $s = b + 156$
 - D. $2s + 3b = 156$
 $b - s = 8$

2. At a college bookstore, Carla purchased a math textbook and a novel that cost a total of \$54, not including tax. If the price of the math textbook, m , is \$8 more than 3 times the price of the novel, n , which system could be used to determine the price of each book?
 - F. $m + n = 8$
 $m = 3n + 54$
 - G. $m + n = 8$
 $m = 3n - 54$
 - H. $m + n = 54$
 $m = 3n + 8$
 - J. $m + n = 54$
 $m = 3n - 8$

3. At Candy's Sweet Shop, Sarah made c pounds of chocolate-covered raisins, which sell for \$1.50 a pound, and y pounds of yogurt-covered raisins, which sell for \$1.20 a pound. Sarah wants to make 40 pounds of a mixture of the two kinds of raisins that sells for \$1.35 a pound. Which system of equations can be used to find the number of pounds of each kind of raisin needed to produce the mixture?
 - A. $c + y = 40$
 $1.50c + 1.20y = 1.35(40)$
 - B. $c + y = 40$
 $150c + 120y = 1.35(40)$
 - C. $c + y = 40$
 $1.20c + 1.50y = 1.35(40)$
 - D. $c + y = 40$
 $120c + 150y = 1.35(40)$

4. The perimeter of a rectangular wooden deck is 90 feet. The deck's length, l , is 5 feet less than 4 times its width, w . Which system of linear equations can be used to determine the dimensions, in feet, of the wooden deck?
 - F. $2l + 2w = 90$
 $l = 5 - 4w$
 - G. $2l + 2w = 90$
 $l = 5w - 4$
 - H. $2l + 2w = 90$
 $l = 4 - 5w$
 - J. $2l + 2w = 90$
 $l = 4w - 5$

5. A school principal ordered 100 pizzas for a total of \$1255. Cheese pizzas cost \$11.50 each, and pepperoni pizzas cost \$13.00 each. Which of the following systems of linear equations can be used to determine c , the number of cheese pizzas the principal ordered, and p , the number of pepperoni pizzas the principal ordered?

- A. $c + p = 100$
 $13c + 11.50p = 1255$
 B. $c - p = 100$
 $13c + 11.50p = 1255$
 C. $c + p = 100$
 $11.50c + 13p = 1255$
 D. $c - p = 100$
 $11.50c + 13p = 1255$

6. Hector and Chris are friends.

- Chris weighs two pounds more than Hector.
- Together they weigh 314 pounds.

Chris's weight can be represented by c , and Hector's weight can be represented by h . Which system of equations can be used to determine their weights?

- F. $c = 2 + h$
 $c + h = 314$
 G. $c = 2 - h$
 $c - h = 314$
 H. $c = 2 - h$
 $h - c = 314$

7. The sum of the perimeters of two different squares is 32 centimeters, and the difference between their perimeters is 8 centimeters. If x represents the side length of the larger square and y represents the side length of the smaller square, which of the following systems of equations could be used to find the dimensions of the squares?

- A. $x + y = 32$
 $x - y = 8$
 B. $4x + 4y = 32$
 $4x - 4y = 8$
 C. $2x + 2y = 32$
 $2y - 2x = 8$
 D. $4x + 2y = 32$
 $4x - 2y = 8$

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8. At a firefighters' pancake breakfast, the firefighters served 345 people and raised \$1395. If the cost of a , an adult's ticket to the pancake breakfast, was \$5 and the cost of c , a child's ticket, was \$3, what was the number of adult tickets sold?

- F. 165
 G. 180
 H. 279
 J. 345

9. Some values for two linear equations are shown in the tables below.

Equation 1

x	y
-4	-7
-1	-1
2	5
5	11

Equation 2

x	y
-3	-13
0	-4
1	-1
5	11

What is the solution to the system of equations represented by these tables?

- A. (3, 5)
 B. (-1, 1)
 C. (5, 11)

10. A rectangle has a perimeter of 140 units. Its length is 10 units more than its width. If l represents the length and w represents the width, then this situation can be represented by this system of equations.

$$2l + 2w = 140$$

$$l = w + 10$$

What is the width of this rectangle?

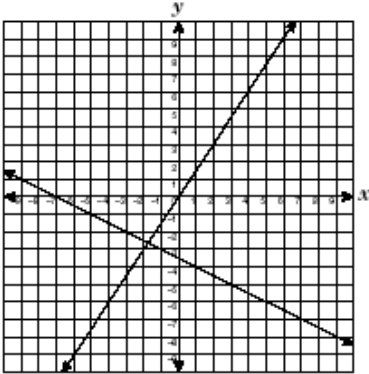
- F. 65 units
 G. 30 units
 H. 70 units

11. Which graph best represents a solution to this system of equations?

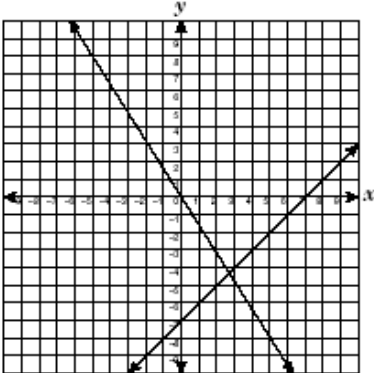
$$2x - 3y = 0$$

$$x + 2y = -7$$

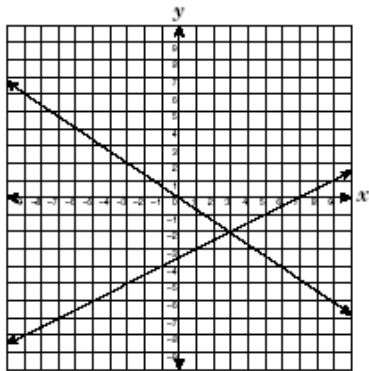
A.



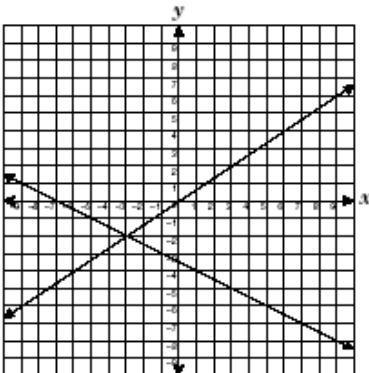
B.



C.



D.

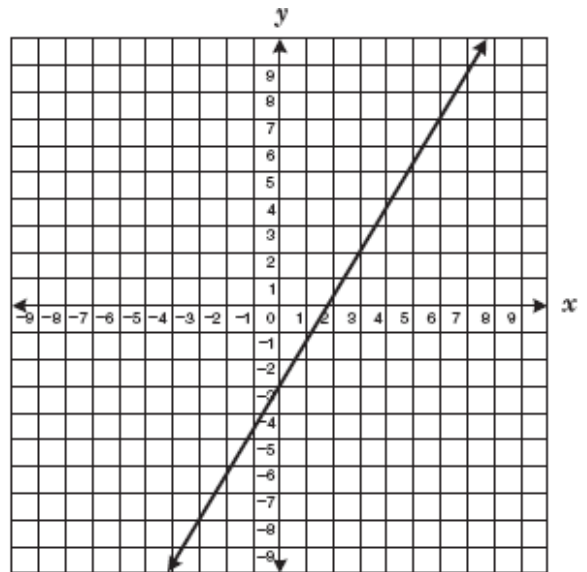


12. Marcos had 15 coins in nickels and quarters. He had 3 more quarters than nickels. He wrote a system of equations to represent this situation, letting x represent the number of nickels and y represent the number of quarters. Then he solved the system by graphing. What is the solution?

- F. (6, 9)
- G. (5, 10)
- H. (9, 6)
- J. (10, 5)

13.

The graph of the equation $y = \frac{5}{3}x - 3$ is given below. Graph $y = x + 1$ on the grid.



What is the solution to this system of equations?

- A. (0, 1)
- B. (5, 6)
- C. (6, 7)
- D. No solution

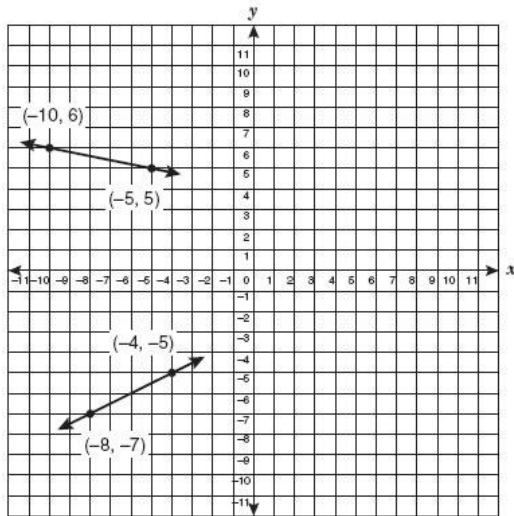
14. At a pet store the total cost of 8 pounds of Brand X dog food and 1 pound of Brand Y dog food is \$8.40, including tax. The total cost of 16 pounds of Brand X dog food and 8 pounds of Brand Y dog food is \$24.00, including tax. What is the price per pound of Brand Y dog food?

- F. \$0.90
- G. \$1.20
- H. \$2.60
- J. \$4.08

15. The equations of two lines are $6x - y = 4$ and $y = 4x + 2$. What is the value of x in the solution for this system of equations?

- A. $x = 14$
- B. $x = 3$
- C. $x = 1$
- D. $x = 6$

16. The graph of a system of linear equations is shown below.



Which of the following is the solution to this system of linear equations?

- F. $(0, 4)$
- G. $(8, 1)$
- H. $(0, -3)$
- J. $(10, 2)$

17. Some values for two linear equations are shown in the tables below.

Equation 1

x	y
2	5
-4	-7
5	11
-1	-1

Equation 2

x	y
5	11
-3	-13
0	-4
1	-1

What is the solution to the system of equations represented by these tables?

- F. $(2, 3)$
- G. $(3, 5)$
- H. $(-1, 1)$
- J. $(5, 11)$

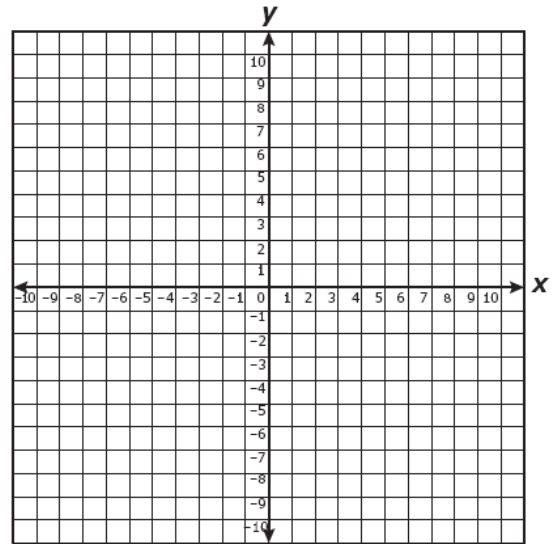
18. Which is the solution to this pair of linear equations?

$$\begin{aligned} 5y - 2x &= 6 \\ 3x - 2y &= 13 \end{aligned}$$

- A. $(3, -2)$
- B. $(5, -2)$
- C. $(7, 4)$
- D. $(8, -4)$

19. What is the solution for the following system of linear equations?

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



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

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20. Kelly will enclose her rectangular tomato garden with 32 feet of fencing material. She wants the length of the garden to be at least three times the width. What is the minimum length that will meet Kelly's conditions?

- F. 24 ft
- G. 12 ft
- H. 8 ft
- J. 4 ft