

1. 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 of linear equations could be used to determine the price of each book?

A  $m + n = 54$   
 $n = 3m - 8$

B  $m + n = 54$   
 $n = 3m + 8$

C  $m + n = 54$   
 $m = 3n - 8$

D  $m + n = 54$   
 $m = 3n + 8$

2. Cadence has a collection of 52 dolls that all have either blue eyes or green eyes. Cadence has 16 more blue-eyed dolls than green-eyed dolls. If  $b$  is the number of blue-eyed dolls and  $g$  is the number of green-eyed dolls, which system of linear equations could be used to determine the number of dolls that are blue-eyed and the number that are green-eyed?

A  $b + g = 52$   
 $16b - g = 52$

B  $b + g = 16$   
 $b = g + 52$

C  $b + g = 52$   
 $b = g + 16$

D  $b + g = 52$   
 $b + 16 = g$

3. 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?

A  $2l + 2w = 90$   
 $l = 4w - 5$

B  $l + w = 90$   
 $l = 4w - 5$

C  $lw = 90$   
 $l = 5 - 4w$

D  $2l + 2w = 90$   
 $l = 5 - 4w$

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

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

A (1, 3)

B (-1, 3)

C (-1, -3)

D (0, 2)

5. What is the  $y$  value in the solution to the system of linear equations below?

$$\begin{aligned} x &= 3y \\ x - 4y &= -1 \end{aligned}$$

6. The sum of the perimeters of two different equilateral triangles is 78 centimeters, and the difference between their perimeters is 12 centimeters. If  $x$  represents the side length of the smaller triangle and  $y$  represents the side length of the larger triangle, which of the following systems of equations could be used to find the dimensions of the triangles?

A  $x - y = 12$   
 $3x + 3y = 78$

B  $3x - 3y = 1$   
 $3x + 3y = 78$

C  $3y - 3x = 12$   
 $3y + 3x = 78$

D  $y - x = 12$   
 $3y + 3x = 78$

7. A group of people bought movies tickets at the AMC Century City. They bought a total of 7 tickets, some adult and some kid tickets. They spent a total of \$72. The adult tickets cost \$12 and kid tickets cost \$9. Which system of linear equations can be used to find  $a$ , the number of adult tickets purchased, and  $c$ , the number of children tickets purchased?

A  $a + c = 7$   
 $12a + 9c = 72$

B  $a + c = 7$   
 $9a + 12c = 72$

C  $a + c = 72$   
 $12a + 9c = 7$

D  $a + c = 72$   
 $9a + 12c = 7$

8. Polo has a jar that contains 104 coins, some are quarters and some are dimes. Their value is \$15.25. Polo wrote the following system of equations where  $q$  represents the number of quarters and  $d$  represents the number of dimes:

$$\begin{aligned}q + d &= 104 \\ .25q + .10d &= 15.25\end{aligned}$$

Which statement below describes the solution to this system of equations?

- A There is no reasonable solution to the system of equations because the number of coins cannot be negative.
- B There is no reasonable solution to the system of equations because the number of coins cannot be a fraction.
- C There is a reasonable solution to the system of equations.
- D This system has no solution.
9. Matt and Ming are selling fruit for a school fundraiser. Customers can buy small boxes of oranges and large boxes of oranges. Matt sold 3 small boxes of oranges and 14 large boxes of oranges for a total of \$203. Ming sold 11 small boxes of oranges and 11 large boxes of oranges for a total of \$220. Which linear system can be used to find  $s$ , the cost of each small box of oranges, and  $l$ , the cost of each large box of oranges?

A $s + l = 203$	B $3s + 14l = 203$	C $3s + 14l = 220$	D $3 + 14 = 203$
$s + l = 220$	$11s + 11l = 220$	$11s + 11l = 203$	$11 + 11 = 220$

10. The price,  $e$ , of an entertainment system at Extreme Electronics is \$220 less than twice the price,  $u$ , of the same system at Ultra Electronics. The difference in price between the system at Extreme Electronics and Ultra Electronics is \$175. This system of linear equations can be used to determine the price of the system at each store:

$$\begin{aligned}e &= 2u - 220 \\ e - u &= 175\end{aligned}$$

The solution to the system of equations is (395, 570). What is a correct interpretation of this solution?

- A The price at Ultra Electronics is \$395 and the price at Extreme Electronics is \$220
- B The price at Extreme Electronics is \$395 and the price at Ultra Electronics is \$570
- C The price at Ultra Electronics is \$395 and the price at Extreme Electronics is \$175
- D The price at Ultra Electronics is \$395 and the price at Extreme Electronics is \$570
11. All 231 students in the Math Club went on a field trip. Some students rode in vans which hold 7 students each and some students rode in buses which hold 25 students each. There were 15 vehicles total. If  $v$  represents the number of vans and  $b$  represents the number of busses the following linear system can be used to determine the number of each vehicle:

$$\begin{aligned}v + b &= 15 \\ 7v + 25b &= 231\end{aligned}$$

The solution to the system of equations is (8, 7). What is a correct interpretation of this solution?

- A The total number of busses was 15 and the total number of vans were 231.
- B The total number of vans was 7 and the total number of busses were 8.
- C The total number of vans was 8 and the total number of busses were 7.
- D The total number of busses was 25 and the total number of vans were 7.

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_