

TEST NAME: **Math 1 online Feb 21 (COPY)**
TEST ID: **2902696**
GRADE: **09 - Ninth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **My Classroom**

Student: _____
Class: _____
Date: _____

1. **Gabriela wants to show that the following is true by example.**

Given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

She begins with the system of linear equations below.

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

She then multiplies the second equation by 3. What should she do next?

- A. Add $6x - 2y = -4$ to $2x + y = -8$.
 - B. Add $6x + 3y = -24$ to $6x - 2y = -4$.
 - C. Multiply $2x + y = -8$ by 2 and add to $6x - 2y = -4$.
 - D. Multiply $6x - 2y = -4$ by 3 and add to $6x + 3y = -24$.
2. **A system of equations is given below.**

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

Which of these procedures will eliminate a variable in one of the equations in the system above?

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

3. To show that the following is true, two options are given.

Given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

Option 1: Given: $2x + 4y = 2$
 $3x + 5y = -1$
Multiply $3x + 5y = -1$ by 2: $6x + 10y = -2$
Add $6x + 10y = -2$ to $2x + 4y = 2$: $8x + 14y = 0$

New System: $2x + 4y = 2$
 $8x + 14y = 0$

Option 2: Given: $2x + 4y = 2$
 $3x + 5y = -1$
Multiply $3x + 5y = -1$ by 2: $6x + 10y = -2$
Add $6x + 10y = -2$ to $2x + 4y = 2$: $8x + 14y = 0$

New System: $8x + 14y = 0$
 $3x + 5y = -1$

Which option(s) show(s) a correct procedure and an analogous system?

- A. Option 1
 - B. Option 2
 - C. both options
 - D. neither option
4. A system of equations is shown below.

$$y = 3x + 16$$
$$6x + 2y = 8$$

What is the value of y in the system?

- A. -2
- B. 8
- C. 10
- D. 40

5. Six times a number plus three times a second number is 27. The second number is one more than two times the first number. What is the second number?
- A. 2
 - B. 3
 - C. 4
 - D. 5
6. At the movies, Pat purchased a soda and a large popcorn for \$12.25. The popcorn cost \$1.25 more than the soda. How much did the popcorn cost?
- A. \$4.25
 - B. \$5.50
 - C. \$6.75
 - D. \$11.00
7. The combined age of April and Laura is 23 years. Laura's age is two years more than half of April's age. What is Laura's age?
- A. 6
 - B. 8
 - C. 9
 - D. 14
8. 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

9. Tickets for a play cost \$2.50 for students and \$4.00 for non-students. The number of student tickets sold was 3 times the number of non-student tickets sold. If the theater sold \$2,369 worth of tickets, how many student tickets were sold?
- A. 206
 - B. 364
 - C. 618
 - D. 1,092
10. The combined weight of a puppy and its mother is 47 pounds. The mother weighs 8 pounds less than 4 times the weight of the puppy. How much does the puppy weigh?
- A. 11 pounds
 - B. 12 pounds
 - C. 13 pounds
 - D. 14 pounds
11. Sean has \$5 worth of coins consisting of nickels and quarters. The number of nickels is 4 more than 3 times the number of quarters. How many quarters does Sean have?
- A. 3
 - B. 8
 - C. 12
 - D. 19

12. Sammy picks blueberries and cherry tomatoes.

- She earns \$3.00 for each pint of blueberries and \$2.00 for every pint of cherry tomatoes she picks.
- Sammy earned a total of \$28.00.
- She picked twice as many pints of tomatoes as blueberries.

How many pints of blueberries did Sammy pick?

- A. 4
- B. 5
- C. 7
- D. 8

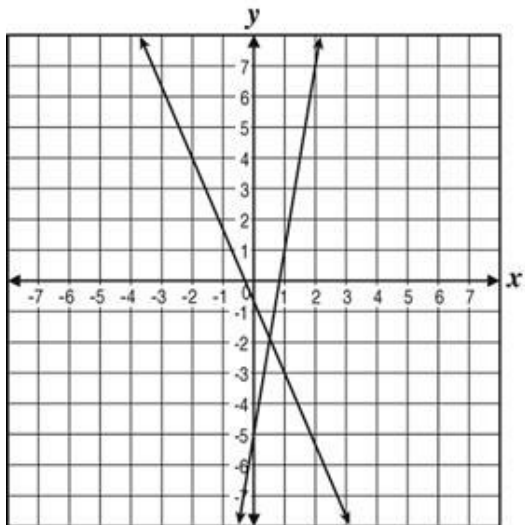
13. Maria purchased 2 pairs of earrings and 4 necklaces for \$29.00. Kelly purchased 3 pairs of earrings and 2 necklaces for \$21.50. How much would 1 pair of earrings and 3 necklaces cost?

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

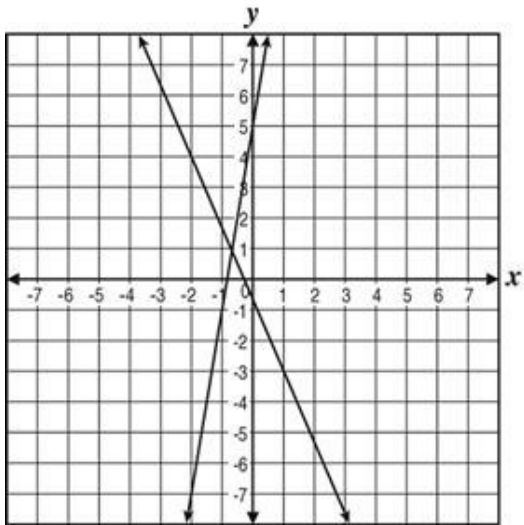
14. Which graph shows the solution of this system of equations?

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

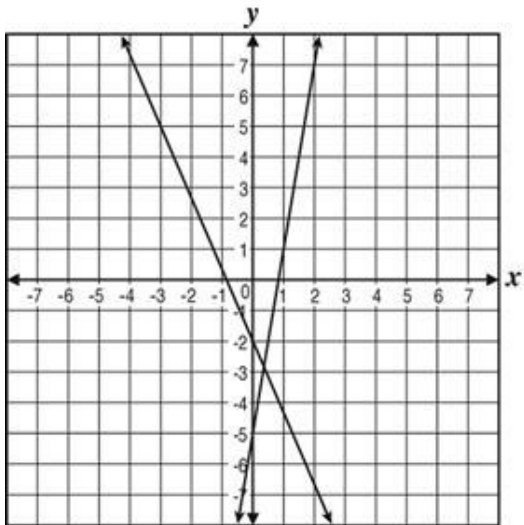
A.



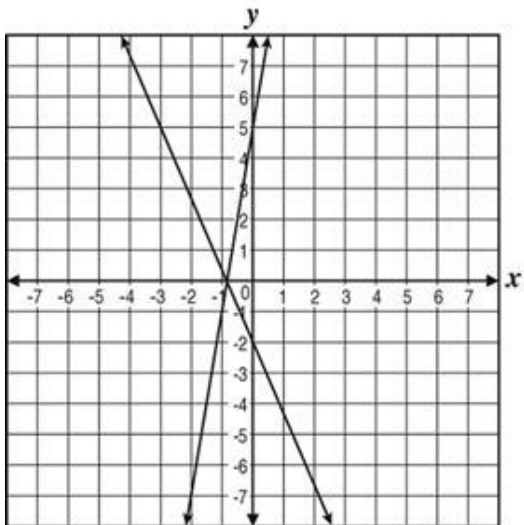
B.



C.



D.



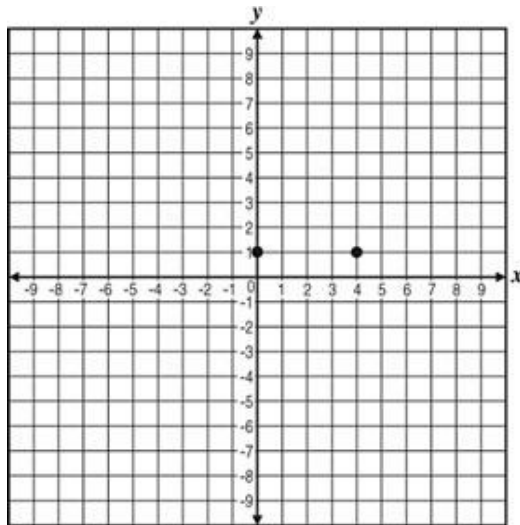
15. Manuel bought a shirt and a sweater for a total price of \$65. The price of the sweater was \$5 more than twice the price of the shirt. What was the price of the shirt?
- A. \$13
 - B. \$20
 - C. \$30
 - D. \$45
16. Jack has twice as many dimes as quarters. If the total value of the coins is \$6.30, how many dimes does he have?
- A. 14
 - B. 18
 - C. 28
 - D. 42
17. 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?

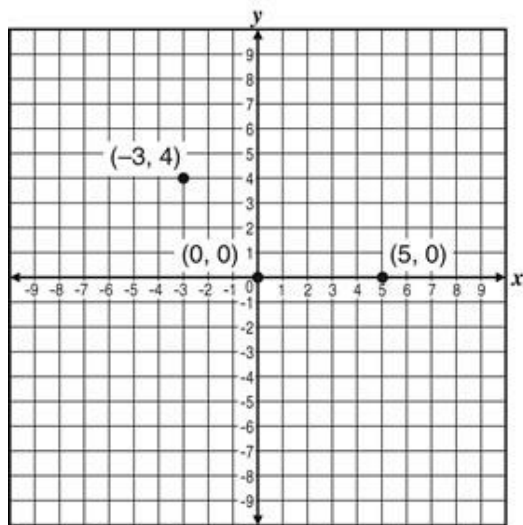
- A. $(7 - 2y) + 2y = 7$
- B. $(7 + 2y) + 2y = 7$
- C. $2(7 - 2y) - 7y = 3$
- D. $2(7 + 2y) - 7y = 3$

18. A square is drawn on a coordinate plane with two vertices at $(0, 1)$ and $(4, 1)$.



What could be the coordinates of the square's other two vertices?

- A. $(0, 4)$ and $(4, 4)$
 - B. $(0, 3)$ and $(4, 3)$
 - C. $(0, -4)$ and $(4, -4)$
 - D. $(0, -3)$ and $(4, -3)$
19. Three vertices of a kite are drawn at coordinates $(0, 0)$, $(-3, 4)$, and $(5, 0)$ on the grid below.



Which coordinate pair could be the fourth vertex of the kite?

- A. $(-8, 4)$
- B. $(4, 8)$
- C. $(8, -4)$
- D. $(8, 4)$

20. A right triangle is formed by connecting coordinates $(5, -2)$, $(2, -3)$, and $(-1, 6)$. What is the area of the triangle in square units?
21. A diameter of Circle P has endpoints $(6, 0)$ and $(-6, 0)$. Which point also lies on Circle P ?
- A. $(-5, 3)$
 - B. $(-3\sqrt{2}, -6\sqrt{2})$
 - C. $(-2\sqrt{2}, 2\sqrt{7})$
 - D. $(3, 3)$