Systems of Linear Equations Study Guide
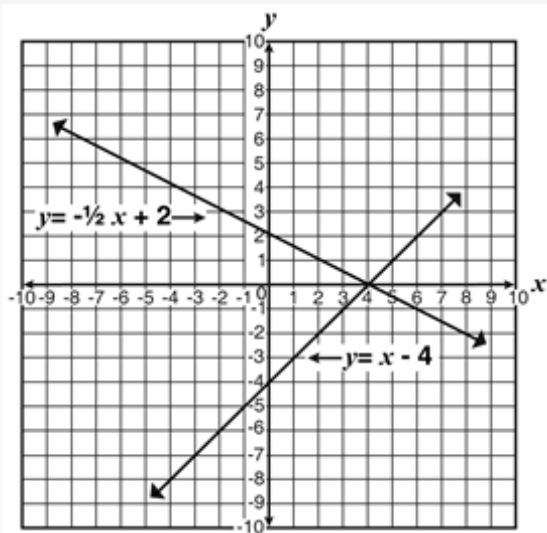[831282]

Student _____

1. A system of equations is shown below.

$$2x - y = 8$$

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

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

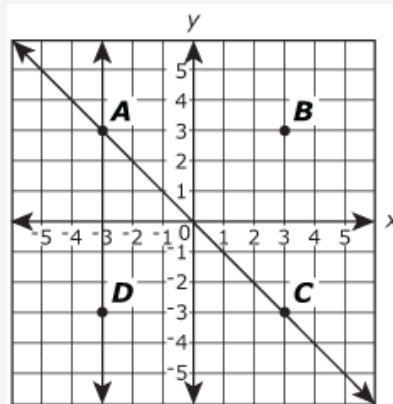2. A system of linear equations is graphed below.

What coordinate point represents the solution?

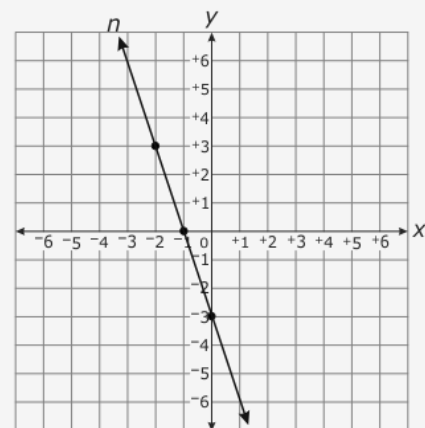3. What ordered pair is a solution of the system of linear equations listed below?

$$2x - 3y = 3$$
$$4x - 2y = 10$$

4. A system of linear equations is graphed on the coordinate grid shown.

Which point represents the solution to the system?

   A.   Point A

   B.   Point B

   C.   Point C

   D.   Point D

5. Line n is graphed below. Line p will be graphed below. The equation for line p is $y = 2x + 2$.

What is the point of intersection of lines n and p?

6. What is the *x*-coordinate of the ordered pair that satisfies this system of linear equations?

$$3x - 5y = 10$$
$$-x + 3y = -6$$

7. What is the *x*-value of the solution to the system of equations shown below?

$$\begin{cases} 4x + 10y = -2 \\ -3x + y = 10 \end{cases}$$

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

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

A. no solution

B. infinitely many solutions

C. one solution with a *y* value of 5

D. one solution with a *y* value of -1

9. What ordered pair represents the solution to this system of linear equations?

$$3y = 2x + 2$$
$$y = \frac{4}{3}x + 1$$

A. $\left(-\frac{1}{2}, \frac{1}{3}\right)$

B. $\left(-\frac{1}{3}, \frac{1}{2}\right)$

C. $\left(\frac{1}{3}, -\frac{1}{2}\right)$

D. $\left(\frac{1}{2}, -\frac{1}{3}\right)$

10. What is the solution to this system of equations?

$$y = \frac{3}{2}x - 1$$
$$y = 3x + 5$$

11. An apartment building contains 100 units. The one-bedroom units rent for $495 per month and the two-bedroom units rent for $600 per month. When all the units are rented out, the total monthly rent paid by the tenants is $55,275. How many two-bedroom apartments are there?

12. A theater charges $5 for student tickets and $7 for adult tickets. They sold 75 tickets for a total of $425. Which set of equations can be used to determine *x*, the number of student tickets sold, and *y*, the number of adult tickets sold?

A.   x − y = 75
     5x + 7y = 425

B.   x − y = 425
     5x + 7y = 75

C.   x + y = 75
     5x + 7y = 425

D.   x + y = 425
     5x + 7y = 75

13. Paul has a collection of nickels and dimes that has a total value of $12.50. He has 150 coins in all. How many dimes does Paul have?

14. Jerry is 4 years older than Hunter. The sum of their ages is 24. How old is Jerry?

15. Michelle's age is 5 more than 3 times Ashley's age. The sum of their ages is 49. How old is Ashley?

16. The length of a rectangle is 4 centimeters longer than the width of the rectangle. The perimeter of the rectangle is 88 centimeters. What is the area of the rectangle, in square centimeters?

17. Adult and student tickets were sold for a school concert. The adult tickets cost $12 each, and the student tickets cost $8 each. If a total of 360 tickets were sold for $3,480, how many of each kind of ticket were sold?