

Name _____

CHAPTER 4 TEST FORM D

1. If two lines do not intersect, the system is
 - a. consistent and independent
 - b. consistent and dependent
 - c. inconsistent and independent
 - d. inconsistent and dependent

2. A system of equations that has at least one solution is called a(n) _____ system.
 - a. consistent
 - b. inconsistent
 - c. dependent
 - d. independent

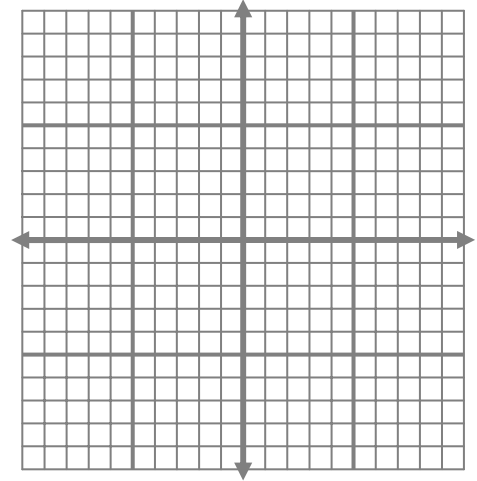
3. Equations with different graphs are called _____ equations.
 - a. consistent
 - b. inconsistent
 - c. dependent
 - d. independent

4. Determine if $(-2, -3)$ is a solution of the system $\begin{cases} 3x - 5y = 9 \\ 4x + 7y = -29 \end{cases}$.
 - a. $(-2, -3)$ is not a solution of either equation.
 - b. $(-2, -3)$ is a solution of only the first equation.
 - c. $(-2, -3)$ is a solution of only the second equation.
 - d. $(-2, -3)$ is a solution of both equations.

5. Determine if $(-\frac{1}{2}, 2)$ is a solution of the system $\begin{cases} 6x - 2y = 7 \\ 4x + 3y = 4 \end{cases}$.
- $(-\frac{1}{2}, 2)$ is a solution of only the first equation.
 - $(-\frac{1}{2}, 2)$ is a solution of only the second equation.
 - $(-\frac{1}{2}, 2)$ is a solution of both equations.
 - $(-\frac{1}{2}, 2)$ is not a solution of either equation.
6. If line 1 has slope 3 and y-intercept 4 and line 2 has slope $-\frac{1}{3}$ and y-intercept 4, how many solutions does the system have?
- one solution
 - infinitely many solutions
 - cannot determine from the information given
 - no solution
7. Determine the number of solutions for the system $\begin{cases} 2x + 3y = 6 \\ x + 3 = \frac{3}{2}y \end{cases}$.
- one solution
 - infinitely many solutions
 - no solution
 - none of these

8. Solve the system $\begin{cases} 2x + y = 5 \\ 5x - y = 9 \end{cases}$ by graphing and then give the y -coordinate of the solution.

- a. $y = 2$
 b. $y = -1$
 c. $y = -2$
 d. $y = 1$



9. What must " a " equal so $\begin{cases} 4x - 3y = 9 \\ y = ax - 2 \end{cases}$ has no solution?

- a. $-\frac{4}{3}$
 b. $\frac{3}{4}$
 c. $\frac{4}{3}$
 d. $-\frac{3}{4}$

10. The substitution method will be used to solve the system $\begin{cases} 2x - y = 4 \\ 3x + 2y = 6 \end{cases}$.
 Solve the first equation for y .

- a. $y = 2x + 4$
 b. $y = -2x - 4$
 c. $y = 2x - 4$
 d. $y = -2x + 4$

11. The system of equations $\begin{cases} y = x + 2 \\ 6x - 4y = 21 - y \end{cases}$ will be solved by the substitution method.

If you substitute the first equation into the second equation, the new equation is

- a. $2x + 2 = 23 - x$
 - b. $2x + 8 = 23 - x$
 - c. $10x - 8 = 19 - x$
 - d. $2x - 8 = 19 - x$
12. In solving a system of equations using the substitution method, suppose you obtain the result of $2 = 2$. What would be the graph of the system?
- a. two parallel lines
 - b. two lines that intersect in one point
 - c. two lines that coincide
 - d. two lines that are perpendicular
13. Which variable in which equation would be the best to solve for in step 1 of the substitution method to make the easiest work?

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

- a. solve for y in the first equation
 - b. solve for x in the first equation
 - c. solve for y in the second equation
 - d. solve for x in the second equation
14. Which of the following systems is written in the correct form for using the elimination (addition) method?

- a. $\begin{cases} 3x - 7 = 2y \\ 2x + 5y = 9 \end{cases}$
- b. $\begin{cases} 3x - 2y = 7 \\ 2x + 5y = 9 \end{cases}$
- c. $\begin{cases} 3x - 2y = 7 \\ 2x - 9 = -5y \end{cases}$
- d. $\begin{cases} 3x - 2y = 7 \\ 5y + 2x = 9 \end{cases}$

15. Elimination (addition) will be used to solve the system $\begin{cases} 5x - 2y = 6 \\ 3x - 6y = 2 \end{cases}$. Which of the following equations is equivalent to the first equation and can be used with the second equation to eliminate y by addition?
- $-15x + 6y = 6$
 - $-15x + 6y = -18$
 - $15x + 6y = 18$
 - $15x - 6y = 6$
16. Solve the following system of equations by the substitution or elimination (addition) method. Find the x -coordinate of the ordered pair of the solution of the system $\begin{cases} 2x + 3y = 6 \\ 3x - y = -13 \end{cases}$.
- $x = 3$
 - $x = \frac{45}{11}$
 - $x = -3$
 - $x = -\frac{45}{11}$
17. Solve the following system of equations by the substitution or elimination (addition) method. Find the y -coordinate of the ordered pair of the solution of the system $\begin{cases} x - 5y = 13 \\ 4x + 5y = 2 \end{cases}$.
- $y = -2$
 - $y = 3$
 - $y = 2$
 - $y = -3$

18. Solve the following system of equations by the elimination (addition) method. Find the x -coordinate of the ordered pair of the solution of the system $\begin{cases} 3x - 2y = -14 \\ 5x + 3y = 2 \end{cases}$.

- a. $x = -\frac{12}{19}$
- b. $x = 2$
- c. $x = 4$
- d. $x = -2$

19. Solve the following system by the elimination (addition) method. Find the y -coordinate of the ordered pair of the solution of the system $\begin{cases} \frac{x}{2} + y = 1 \\ \frac{x}{2} - \frac{y}{3} = \frac{5}{3} \end{cases}$.

- a. $y = 3$
- b. $y = \frac{1}{2}$
- c. $y = \frac{5}{2}$
- d. $y = -\frac{1}{2}$

20. Two angles are supplementary. The measure of the larger angle is 10° less than three times the measure of the smaller angle. If y is the larger angle, choose the system of equations that would solve the problem.

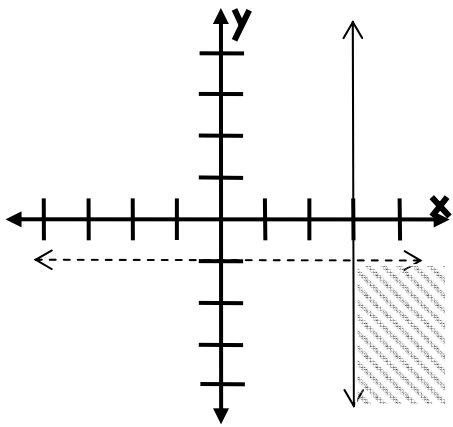
- a. $\begin{cases} x + y = 180 \\ y = 10 - 3x \end{cases}$
- b. $\begin{cases} x + y = 90 \\ y = 3x - 10 \end{cases}$
- c. $\begin{cases} x + y = 180 \\ y = 3x - 10 \end{cases}$
- d. $\begin{cases} x + y = 90 \\ y = 10 - 3x \end{cases}$

21. At the concession stand hot dogs sold for \$1.00 and hamburgers for \$1.50. At the last football game 175 hot dogs and hamburgers were sold and \$235 was collected. How many hamburgers were sold? Solve by writing a system of two equations in two variables.
- 120
 - 100
 - 140
 - 55
22. A laboratory technician has one solution that is 40% alcohol and a second that is 60% alcohol. She needs 8 liters of a solution that is 55% alcohol. How many liters of the 40% solution should be used? Solve by writing a system of two equations in two variables.
- 2
 - 3
 - 4
 - 6
23. The solutions for the system $\begin{cases} x < 0 \\ y < 0 \\ x - y \geq 2 \end{cases}$ are in
- Quadrant I
 - Quadrant II
 - Quadrant III
 - Quadrant IV

24. Which of the following points cannot be used as a test point to determine which region to shade for $2x - 4y > 10$?

- a. $(-3, 1)$
- b. $(3, -1)$
- c. $(3, 1)$
- d. $(-3, -1)$

25. Find the system of inequalities which corresponds to the following graph.



- a. $\begin{cases} x > 3 \\ y \leq -1 \end{cases}$
- b. $\begin{cases} x \leq 3 \\ y > -1 \end{cases}$
- c. $\begin{cases} x \geq 3 \\ y < -1 \end{cases}$
- d. $\begin{cases} x \leq 3 \\ y < -1 \end{cases}$