

Name _____

CHAPTER 4 TEST FORM G

1. If the sum of the measures of two angles is 180° , the angles are called _____ angles.
 - a. complementary
 - b. supplementary
 - c. right
 - d. obtuse

2. A system with no solution is called
 - a. an independent system
 - b. a dependent system
 - c. a consistent system
 - d. an inconsistent system

3. Determine if $\left(-\frac{1}{2}, \frac{3}{4}\right)$ is a solution of the system $\begin{cases} 2x + 4y = 2 \\ 4x + 16y = 10 \end{cases}$.

4. Determine if $(3, -2)$ is a solution of the system $\begin{cases} 3x - 2y = 13 \\ 4y + 7 = 5x \end{cases}$.
 - a. $(3, -2)$ is a solution of only the first equation
 - b. $(3, -2)$ is a solution of only the second equation
 - c. $(3, -2)$ is a solution of both equations
 - d. $(3, -2)$ is not a solution of either equation

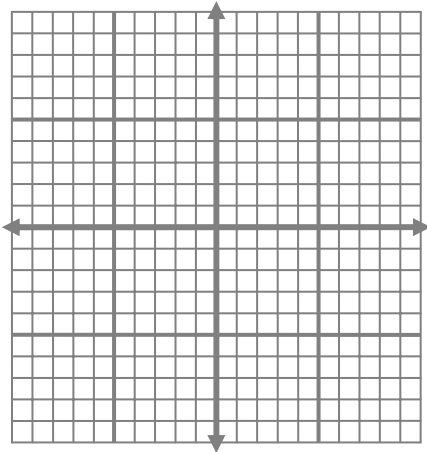
5. Determine the number of solutions for the system $\begin{cases} 3x - 2y = 6 \\ \frac{x}{2} - \frac{2}{3} = \frac{y}{3} \end{cases}$.
 - a. one solution
 - b. no solution
 - c. infinitely many solutions
 - d. none of these

6. What must “ a ” and “ b ” equal so the following system has an infinitely many

$$\text{solutions? } \begin{cases} 4x - 3y = 6 \\ y = ax + b \end{cases}$$

- a. $a = -4, b = 6$
b. $a = \frac{4}{3}, b = 6$
c. $a = \frac{4}{3}, b = -2$
d. $a = -\frac{4}{3}, b = 2$
7. Solve the following system by graphing. Write the solution as an ordered pair.

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



8. The system $4 = 4$ was obtained when solving a system by substitution. Draw a possible graph of the system.

9. The substitution method will be used to solve the system $\begin{cases} 2x - y = -5 \\ 3x + 4y = 6 \end{cases}$. Solve the first equation for y .

- a. $y = -2x - 5$
- b. $y = 2x - 5$
- c. $y = 2x + 5$
- d. $y = -2x + 5$

10. The system of equations $\begin{cases} y = 3x - 2 \\ 5x - 6y = -7 \end{cases}$ will be solved by substitution. If you substitute the first equation into the second equation, the new equation is

- a. $-13x + 12 = -7$
- b. $-13x - 12 = -7$
- c. $-13x + 2 = -7$
- d. $5x - 30 = -7$

11. Solve the following system by the substitution method.

$$\begin{cases} x - 2y = 6 \\ 3y - 5x = -23 \end{cases}$$

12. Which of the following systems is written in the correct form for using the elimination (addition) method?

- a. $\begin{cases} 7x - 4y = 6 \\ 2y + 3x = 5 \end{cases}$
- b. $\begin{cases} 7x - 4y = 6 \\ 2y - 5 = -3x \end{cases}$
- c. $\begin{cases} 7x - 4y = 6 \\ -5 + 2y = -3x \end{cases}$
- d. $\begin{cases} 7x - 4y = 6 \\ 3x + 2y = 5 \end{cases}$

13. Elimination (addition) will be used to solve the system $\begin{cases} 3x - 2y = -5 \\ 4x - 6y = 7 \end{cases}$. Which of the following equations is equivalent to the first equation and can be used with the second equation to eliminate y by addition?
- $-9x + 6y = 15$
 - $-9x + 6y = -5$
 - $9x - 6y = -15$
 - $9x - 6y = -5$
14. Use the substitution method or elimination (addition) method to find the y -coordinate of the solution of the system $\begin{cases} 3x - 2y = 8 \\ x + 2y = 4 \end{cases}$.
- $y = -\frac{1}{2}$
 - $y = \frac{17}{2}$
 - $y = \frac{1}{2}$
 - $y = -\frac{17}{2}$
15. Use the elimination method to find the x -coordinate of the solution of the system $\begin{cases} 5x - 6y = -4 \\ 4x + 3y = -11 \end{cases}$
- $x = 2$
 - $x = -2$
 - $x = 1$
 - $x = -1$
16. Solve by the elimination method. $\begin{cases} 4x - 7y = -2 \\ 3x + 5y = 19 \end{cases}$

17. Solve the following system by the elimination method.

$$\begin{cases} 5x - 6y = 4 \\ \frac{x}{6} - \frac{y}{5} = \frac{1}{15} \end{cases}$$

- a. (2,1)
b. $\left(-1, -\frac{3}{2}\right)$
c. The equations are dependent.
d. The system is inconsistent.
18. Two angles are complementary. The measure of the larger angle is 5° less than three times the measure of the smaller. If y is the larger angle, choose the system that would solve the problem.

a. $\begin{cases} x + y = 180 \\ y = 3x - 5 \end{cases}$

b. $\begin{cases} x + y = 90 \\ y = 5 - 3x \end{cases}$

c. $\begin{cases} x + y = 90 \\ y = 3x - 5 \end{cases}$

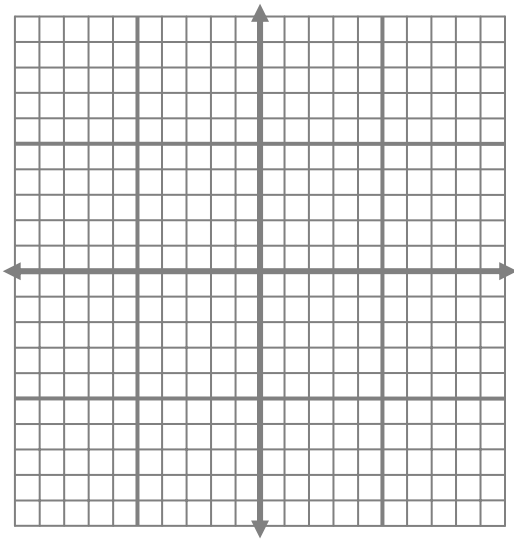
d. $\begin{cases} x + y = 180 \\ y = 5 - 3x \end{cases}$

19. Use two equations in two variables to solve the following application.

A boat can travel 48 miles downstream in 2 hours and can make the return trip in 4 hours. Find the speed of the boat in still water.

20. A chemist needs 12 liters of a 30% acid solution. He has a 10% acid solution and a 40% acid solution. Let x equal number of liters of 10% acid solution and y equal number of liters of 40% acid solution. If solving this problem by writing two equations in two variables, which of the following could be one of the equations?
- a. $.10x + .40y = 3.6$
b. $.10x + .40y = 36$
c. $.10x + .40y = 12$
d. $.10x + .40y = .3$

21. At the ice cream shop one scoop ice cream cones sold for \$1.50 and double scoop cones sold for \$2. On Saturday 80 one scoop and two scoop ice cream cones were sold and \$145 was collected. How many double scoop cones were sold?
22. When graphing $2x - 4y < 3$, is the boundary a solid or dotted line?
23. Which of the following points cannot be used as a test point to determine which region to shade for the linear inequality $2x - 5y \leq 12$?
- $(1, -2)$
 - $(-1, 2)$
 - $(1, 2)$
 - $(-1, -2)$
24. Graph the solution of the system of inequalities: $\begin{cases} 2x - y < 3 \\ x + y \leq 4 \end{cases}$



25. The solutions for the system $\begin{cases} x < 0 \\ y > 0 \end{cases}$ are located in
- Quadrant I
 - Quadrant II
 - Quadrant III
 - Quadrant IV