

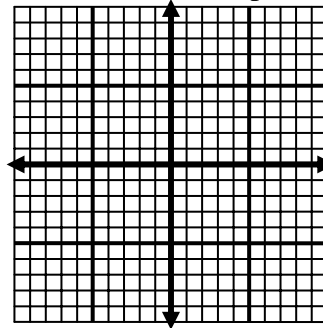
Name \_\_\_\_\_

## CHAPTER 4 TEST FORM I

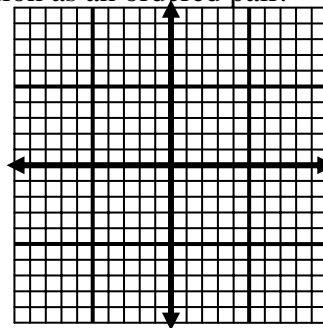
1. Determine if  $(-2, 3)$  is a solution of 
$$\begin{cases} 2x + 4y = 6 \\ 3x - 5y = -21 \end{cases}$$

2. Determine if  $(-3, 2)$  is a solution of 
$$\begin{cases} 5y = 4 - 2x \\ y = -\frac{2}{3}x \end{cases}$$

3. Solve 
$$\begin{cases} x + y = 5 \\ x - y = -1 \end{cases}$$
 by graphing. Write the solution as an ordered pair.



4. Solve 
$$\begin{cases} x + y = 2 \\ x = -1 \end{cases}$$
 by graphing. Write the solution as an ordered pair.



5. Find the slope and y-intercept of the graph of each line in the system 
$$\begin{cases} y = -2x + 3 \\ 4x + 2y = -6 \end{cases}$$
. Then, use that information to determine the number of solutions of the system.

6. A system of equations that has no solution is called a(n) \_\_\_\_\_ system.
7. A system of \_\_\_\_\_ equations has infinitely many solutions.
8. Equations with different graphs are called \_\_\_\_\_ equations.

**Use the substitution method to solve the system of equations in problems 9 and 10.**

9. 
$$\begin{cases} y = -4x \\ 3x - 5y = -46 \end{cases}$$

10. 
$$\begin{cases} x - 3y = 6 \\ 2x - 4y = 6 \end{cases}$$

**Use the elimination (addition) method to solve the system of equations in problems 11 and 12.**

11. 
$$\begin{cases} x + 3y = 5 \\ x - 3y = 7 \end{cases}$$

12. 
$$\begin{cases} 5x - 2y = 8 \\ 3x + 5y = 11 \end{cases}$$

Use substitution or elimination (addition) to solve the systems of equations in problems 13, 14, 15, 16, and 17.

$$13. \quad \begin{cases} 5y = -3x + 6 \\ x + \frac{5}{3}y = 2 \end{cases}$$

$$14. \quad \begin{cases} y = -2x + 7 \\ y = \frac{1}{2}x + 2 \end{cases}$$

$$15. \quad \begin{cases} 7x + 2y = 6 \\ \frac{7}{2}x + y = -\frac{1}{2} \end{cases}$$

$$16. \quad \begin{cases} 3x + 2y = 2 \\ 5x - 6y = 8 \end{cases}$$

$$17. \quad \begin{cases} 6x + y = 3x - y - 8 \\ 3x - y = x + 2y - 1 \end{cases}$$

18. Explain the error in the following work.

$$\begin{cases} x + y = 3 \\ x - y = -1 \end{cases}$$

$$x = 2$$

$$\begin{aligned} 2 + y &= 3 \\ y &= 1 \end{aligned} \quad \text{The solution is (2,1).}$$

**Solve the following applications by writing a system of two equations in two variables.**

19. Two angles are complementary. The measure of the larger angle is  $15^\circ$  more than twice the smaller angle. Find the measure of the smaller angle.
20. An adult's movie ticket costs \$7 and a child's movie ticket costs \$5. Receipts for one showing were \$1,258 for an audience of 222 people. How many adult tickets were sold?
21. Janis had \$10,000 to invest. She put part of the money in a CD paying 5% annually. The rest of the money was put in a money market paying 4% annually. The combined interest earned for the first year was \$475. How much money was invested in the CD?
22. Carol Ann can paddle her canoe  $x$  miles per hour in still water. Write an expression for the rate her canoe will travel if she paddles against a current of 1 mile per hour.
23. When graphing the linear inequality,  $x - 2y \geq 6$ , would you shade above or below the boundary line  $x - 2y = 6$ ?
24. Use a check to determine if  $(2, -3)$  is a solution of the system  $\begin{cases} 2x - 3y \geq 7 \\ -x + y < 8 \end{cases}$ .

25. Graph the solution of the system of inequalities  $\begin{cases} x + y \leq 3 \\ x - y > -1 \end{cases}$

