

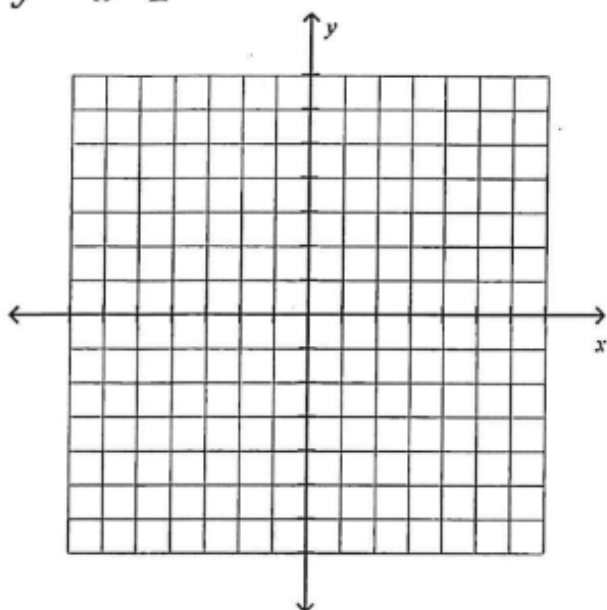
# CHAPTER 6

# REVIEW

1. Solve the system by **graphing**.

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

$$y = -x - 2$$



2. Solve the system using **substitution**.

$$y = 2x + 4$$

$$3x + 4y = 5$$

3. Solve the system using **elimination**.

$$-6x + 2y = 4$$

$$-9x + 3y = 12$$

4. Solve the system using any method.

$$2x + 3y = 3$$

$$-2 \cdot (x - 6y) = (-6) \cdot -2$$

$$2x + 3(1) = 3$$

$$2x + \cancel{3} = \cancel{3}$$

$$\quad \quad \quad \underline{-3 \quad -3}$$

$$\frac{2x}{2} = \frac{0}{2}$$

$$x = 0$$

$$\cancel{2x} + 3y = 3$$

$$\underline{\cancel{-2x} + 12y = 12}$$

$$\frac{15y}{15} = \frac{15}{15}$$

$$y = 1$$

$$(0, 1)$$

5. Solve the system using any method.

$$x = 5y$$

$$x = 5(-1) = -5$$

$$2x + 3y = -13$$

$$2(5y) + 3y = -13$$

$$10y + 3y = -13$$

$$\frac{13y}{13} = \frac{-13}{13}$$

$$y = -1$$

$$(-5, -1)$$

6. Solve the system using any method.

$$\begin{array}{r}
 3x + 3y = 6 \\
 2x - 3y = 4 \\
 \hline
 5x = 10 \\
 \hline
 x = 2
 \end{array}
 \quad \rightarrow \quad
 \begin{array}{r}
 3(2) + 3y = 6 \\
 6 + 3y = 6 \\
 \hline
 -6 \quad -6 \\
 \hline
 3y = 0 \\
 \hline
 \frac{3y}{3} = \frac{0}{3} \\
 y = 0
 \end{array}$$

(2, 0)

7. The sum of two numbers is 32, and their difference is 14. Write a system of equations and find the numbers.

$$\begin{array}{r}
 x = 1st \# \qquad y = 2nd \# \\
 1x + y = 32 \\
 1x - y = 14 \\
 \hline
 2x = 46 \\
 \hline
 \frac{2x}{2} = \frac{46}{2} \\
 x = 23
 \end{array}
 \quad
 \begin{array}{r}
 23 + y = 32 \\
 \hline
 -23 \quad -23 \\
 \hline
 y = 9
 \end{array}$$

$$x = 23$$

23 & 9

$x = \#$  of boxes of ccc       $y = \#$  of boxes of donuts

8. Jackie purchases snacks for a birthday party. Chocolate chip cookies cost \$2 per box and doughnuts cost \$3 per box. If Jackie leaves the store with 27 boxes and spends \$69, how many boxes of each kind does she buy?

$$\begin{array}{r}
 2x + 3y = 69 \\
 -2 \cdot (x + y) = (27) \cdot -2 \rightarrow \underline{-2x - 2y = -54} \\
 \hline
 x + 15 = 27 \\
 \quad -15 \quad -15 \\
 \hline
 x = 12
 \end{array}$$

12 boxes of choc.  
chip cookies

15 boxes of doughnuts

9. Solve the system of inequalities by graphing.

$y \geq 2x + 1$      $m = \frac{2}{1}$      $y\text{-int} = 1$     solid    shade above

$y < -\frac{1}{3}x + 6$      $m = -\frac{1}{3}$      $y\text{-int} = 6$     dotted    shade below

