

Practice 3-2**Solving Systems Algebraically****Solve each system by elimination.**

1.
$$\begin{cases} x + y = 10 \\ x - y = 2 \end{cases}$$

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

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

4.
$$\begin{cases} 4x - 3y = -2 \\ 4x + 5y = 14 \end{cases}$$

5.
$$\begin{cases} x + 2y = 10 \\ 3x - y = 9 \end{cases}$$

6.
$$\begin{cases} 2x - 5y = 11 \\ 4x + 10y = 18 \end{cases}$$

7.
$$\begin{cases} x - y = 0 \\ x + y = 2 \end{cases}$$

8.
$$\begin{cases} x + 3y = -4 \\ y + x = 0 \end{cases}$$

9.
$$\begin{cases} 3x - y = 17 \\ y + 2x = 8 \end{cases}$$

10. Suppose your drama club is planning a production that will cost \$525 for the set and \$150 per performance. A sold-out performance will bring in \$325. Write an equation for the cost C and an equation for the income I for p sold-out performances. Find how many sold-out performances will make the cost equal to the income.

Solve each system by substitution. Check your answers.

11.
$$\begin{cases} y = x + 1 \\ 2x + y = 7 \end{cases}$$

12.
$$\begin{cases} x = y - 2 \\ 3x - y = 6 \end{cases}$$

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

14.
$$\begin{cases} 6x - 3y = -33 \\ 2x + y = -1 \end{cases}$$

15.
$$\begin{cases} 2x - y = 7 \\ 3x - 2y = 10 \end{cases}$$

16.
$$\begin{cases} 4x = 8y \\ 2x + 5y = 27 \end{cases}$$

17.
$$\begin{cases} x + 3y = -4 \\ y + x = 0 \end{cases}$$

18.
$$\begin{cases} 3x + 2y = 9 \\ x + y = 3 \end{cases}$$

19.
$$\begin{cases} 2y - 3x = 4 \\ x = -4 \end{cases}$$

20. Suppose you bought eight oranges and one grapefruit for a total of \$4.60. Later that day, you bought six oranges and three grapefruits for a total of \$4.80. Now you want to find the price of each orange and of each grapefruit. Write an equation for each purchase. Solve the system of equations.

Solve each system.

21.
$$\begin{cases} y = x + 3 \\ 5x + y = 9 \end{cases}$$

22.
$$\begin{cases} 5x + 4y = 2 \\ -5x - 2y = 4 \end{cases}$$

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

24.
$$\begin{cases} 14x + 2y = 10 \\ x - 5y = 11 \end{cases}$$

25.
$$\begin{cases} x + 5y = 1 \\ 2x = 2 - 10y \end{cases}$$

26.
$$\begin{cases} 0.3x + 0.4y = 0.8 \\ 0.7x - 0.8y = -6.8 \end{cases}$$

27.
$$\begin{cases} 4x + 3y = -6 \\ 5x - 6y = -27 \end{cases}$$

28.
$$\begin{cases} 2y = -4x \\ 4x + 2y = -11 \end{cases}$$

29.
$$\begin{cases} 1.2x + 1.4y = 2.7 \\ 0.4x - 0.3y = 0.9 \end{cases}$$