

## Solving Linear Systems by Substitution (ALG.SYS.03)

Evaluate the algebraic expression for the given values of the variables.

1.  $\frac{6a^2}{b+1} + 5ab$   $a = -3$  and  $b = 2$

2.  $\frac{m^2-5n}{3n+2m}$   $m = -6$  and  $n = 3$

3.  $-5a + 2b$   $a = x - 1$  and  $b = 2x + 9$

4.  $3a - 5b$   $a = x + 4$  and  $b = 7 - 5x$

5.  $5y + 2m - 4n + 5$   $m = -6y$  and  $n = 3 - 5y$

6.  $2a - 7b + 6c$   $a = 2x - 5$ ,  $b = 3x + 1$ , and  $c = 2x$

Solve each linear system by substitution.

7.  $\begin{cases} y = 6x - 20 \\ y = -2x + 12 \end{cases}$

8.  $\begin{cases} y = -8x + 17 \\ y = 4x - 19 \end{cases}$

9.  $\begin{cases} y = 2x - 7 \\ y = 3x - 12 \end{cases}$

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

11.  $\begin{cases} 8x + 8y = -24 \\ y = -2x - 11 \end{cases}$

12.  $\begin{cases} y = 3x - 17 \\ -2x + 2y = -18 \end{cases}$

13.  $\begin{cases} 5y - x = -2 \\ 3x - 15y = -2 \end{cases}$

14.  $\begin{cases} 7x + y = 24 \\ -4x + 6y = 6 \end{cases}$

15.  $\begin{cases} -2x + 5y = -17 \\ x - 3y = 9 \end{cases}$

16.  $\begin{cases} 2x - y = 8 \\ 4x - 2y = 16 \end{cases}$

$$17. \begin{cases} -x + 7y = -9 \\ 3x - 8y = 1 \end{cases}$$

$$18. \begin{cases} y = -3x + 5 \\ 6x + 2y = 7 \end{cases}$$

$$19. \begin{cases} -2x = 8y \\ 8x + y = 0 \end{cases}$$

$$20. \begin{cases} 2y - 8x = 5 \\ 4x - y = 7 \end{cases}$$

$$21. \begin{cases} 8x + y = 19 \\ -x - y = -5 \end{cases}$$

$$22. \begin{cases} 2x - y = -8 \\ -2x + 4y = -10 \end{cases}$$

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

$$24. \begin{cases} y - 2 = 3(x + 1) \\ 3x - y = -5 \end{cases}$$

$$25. \begin{cases} 7x - 3y = -9 \\ -2x = 3 - y \end{cases}$$

$$26. \begin{cases} 3y - x = -8 \\ -3x = 2 - 9y \end{cases}$$

$$27. \begin{cases} y - 6 = -2(x + 4) \\ y + 4 = 3(x - 1) \end{cases}$$

$$28. \begin{cases} 4x - 3y = -2 \\ y + 7 = -(x - 3) \end{cases}$$