

## Unit 10.1 Solve systems of three equations PRACTICE

Period \_\_\_\_\_

**Solve each system.**

$$\begin{aligned} 1) \quad & -x + 5y = -17 \\ & -6x - 5y = 3 \end{aligned}$$

 $(2, -3)$ 

$$\begin{aligned} 2) \quad & 6x + 4y = 14 \\ & -4x = -20 \end{aligned}$$

 $(5, -4)$ 

$$\begin{aligned} 3) \quad & 3x - 3y = 24 \\ & -4x + 4y = -12 \end{aligned}$$

No solution.

$$\begin{aligned} 4) \quad & 5x + 6y = -26 \\ & 5x + 4y = -14 \end{aligned}$$

 $(2, -6)$ 

$$\begin{aligned} 5) \quad & -3x + 2y = -19 \\ & 2x + 2y = 6 \end{aligned}$$

 $(5, -2)$ 

$$\begin{aligned} 6) \quad & -4x + 6y = 22 \\ & 4x - 3y = -13 \end{aligned}$$

 $(-1, 3)$ 

$$\begin{aligned} 7) \quad & -2x - 3y = 15 \\ & 5x + 6y + 5z = -15 \\ & x + y = 2 \end{aligned}$$

 $\left(21, -19, -\frac{6}{5}\right)$ 

$$\begin{aligned} 8) \quad & -2x - 2z = 0 \\ & -2x - 3z = 13 \\ & x + 4z = 12 \end{aligned}$$

No solution.

$$\begin{aligned} 9) \quad & x + 4y - z = -5 \\ & -6x - 4y + z = -8 \\ & -4z = -8 \end{aligned}$$

 $\left(\frac{13}{5}, -\frac{7}{5}, 2\right)$ 

$$\begin{aligned} 10) \quad & -y + 6z = 13 \\ & -2x + y + 3z = 6 \\ & -6x + y = -19 \end{aligned}$$

 $(4, 5, 3)$ 

$$\begin{aligned} 11) \quad & -4y - 3z = -2 \\ & 4z = -12 \\ & x + 4y - z = 14 \end{aligned}$$

 $\left(0, \frac{11}{4}, -3\right)$ 

$$\begin{aligned} 12) \quad & 2x + 6z = 14 \\ & -4x + y - 4z = 9 \\ & x - 5z = -1 \end{aligned}$$

 $(4, 29, 1)$

$$\begin{aligned}
 13) \quad & -3x + z = -13 \\
 & -5x - 5y + 2z = 9 \\
 & 2x + y - 5z = -6 \\
 & (5, -6, 2)
 \end{aligned}$$

$$\begin{aligned}
 14) \quad & -x + 5y + 3z = 0 \\
 & 4y - 5z = -4 \\
 & 5x + y = -26 \\
 & (-5, -1, 0)
 \end{aligned}$$

$$\begin{aligned}
 15) \quad & -6x - 2y - 5z = 11 \\
 & y + 3z = -3 \\
 & 2x + y - 6z = 4 \\
 & (-1, 0, -1)
 \end{aligned}$$

$$\begin{aligned}
 16) \quad & -3x + 5y = -27 \\
 & x + 5z = 4 \\
 & 3x - 6y - 3z = 30 \\
 & \text{Infinitely many solutions}
 \end{aligned}$$

$$\begin{aligned}
 17) \quad & y + 4z = -4 \\
 & -4x + 2y - 6z = 24 \\
 & -6x + y + 3z = 4 \\
 & (-1, 4, -2)
 \end{aligned}$$

$$\begin{aligned}
 18) \quad & 3x - 6y - 3z = 27 \\
 & -6x + y = 12 \\
 & -3x - 3y = 27 \\
 & (-3, -6, 0)
 \end{aligned}$$

$$\begin{aligned}
 19) \quad & x + 5y = -15 \\
 & -2x - y - 6z = 15 \\
 & -2x - 4y + 2z = 8 \\
 & (0, -3, -2)
 \end{aligned}$$

$$\begin{aligned}
 20) \quad & -x + y = -9 \\
 & 2x - 5y - 4z = 11 \\
 & 2x - 2y + 2z = 17 \\
 & \left(12, 3, -\frac{1}{2}\right)
 \end{aligned}$$

$$\begin{aligned}
 21) \quad & -3x - 6z = -18 \\
 & x - 4y - 2z = -4 \\
 & -5x + 6y + 4z = 7 \\
 & \left(\frac{1}{2}, -\frac{1}{4}, \frac{11}{4}\right)
 \end{aligned}$$

$$\begin{aligned}
 22) \quad & x + 3y - 4z = 4 \\
 & 6x - 2y - 4z = 18 \\
 & 4x - 4z = -4 \\
 & \text{No solution.}
 \end{aligned}$$

$$\begin{aligned}
 23) \quad & 2x - y + z = -1 \\
 & 4x + 3z = 5 \\
 & -3x - y + 4z = 4 \\
 & \left(0, \frac{8}{3}, \frac{5}{3}\right)
 \end{aligned}$$

$$\begin{aligned}
 24) \quad & 4x - 4y = 16 \\
 & 3x - 6y - 5z = 10 \\
 & -x - 4y + z = 30 \\
 & (-2, -6, 4)
 \end{aligned}$$