

Solving Systems of Three Equations w/ Substitution

Solve each system by substitution.

$$\begin{aligned} 1) \quad & -x - y - 3z = -9 \\ & z = -3x - 1 \\ & x = 5y - z + 23 \end{aligned}$$

$$\begin{aligned} 2) \quad & x = -4z - 19 \\ & y = 5x + z - 4 \\ & -5y - z = 25 \end{aligned}$$

$$\begin{aligned} 3) \quad & y = x + z + 5 \\ & z = -3y - 3 \\ & 2x - y = -4 \end{aligned}$$

$$\begin{aligned} 4) \quad & -2y + 5z = -3 \\ & y = -5x - 4z - 5 \\ & x = 4z + 4 \end{aligned}$$

$$\begin{aligned} 5) \quad & y = x + 4z - 5 \\ & 4x + 3y - 2z = 5 \\ & z = -2x + 2 \end{aligned}$$

$$\begin{aligned} 6) \quad & x = 3y - 3z + 8 \\ & z = 4x + 5y - 14 \\ & 3y + 2z = 14 \end{aligned}$$

$$\begin{aligned} 7) \quad & -5x - 3y + z = -4 \\ & -2x - 2y + 2z = 4 \\ & z = x + 5 \end{aligned}$$

$$\begin{aligned} 8) \quad & -4x + 2z = 14 \\ & y = x + z + 12 \\ & -2x - 4z = 22 \end{aligned}$$