

4.4 Exercises - Solving Systems with 3 Variables**Solve the following systems of equations.**

$$\begin{aligned} 1. \quad &4x + 2y - 6z = -38 \\ &5x - 4y + z = -18 \\ &x + 3y + 7z = 38 \end{aligned}$$

$$\begin{aligned} 2. \quad &2p - 5q + r = 1 \\ &3q + 2r = 5 \\ &r = -2 \end{aligned}$$

$$\begin{aligned} 3. \quad &3x = -12 \\ &2x - y + 3z = -1 \\ &3x + 4 - z = -7 \end{aligned}$$

$$\begin{aligned} 4. \quad &4x + y = -7 \\ &x - 2z = 4 \\ &3y + 2z = 8 \end{aligned}$$

$$\begin{aligned} 5. \quad &-2y - 6z = 4 \\ &y + 4z = -5 \\ &x + 2y + 7z = -1 \end{aligned}$$

$$\begin{aligned} 6. \quad &x - 3y = 0 \\ &2x + 3y + 3z = 18 \\ &x + 2y - 4z = 10 \end{aligned}$$

$$\begin{aligned} 7. \quad & x + 3y = 2 \\ & x - 5y + z = 1 \\ & 2x + 3y + z = -2 \end{aligned}$$

$$\begin{aligned} 8. \quad & 3x - 2y + 2z = 0 \\ & 2x + y - z = 0 \\ & 2x - y + 3z = 0 \end{aligned}$$

$$\begin{aligned} 9. \quad & 6x + 2y - 3z = -17 \\ & 7x - 5y + z = 72 \\ & 2x + 8y + 3z = -21 \end{aligned}$$

$$\begin{aligned} 10. \quad & 4x + y + z = 5 \\ & 3x + 3y - 2z = 22 \\ & x - 2y - z = 3 \end{aligned}$$