

Systems of Equation 3 Variables

Date _____ Period _____

Solve each system.

$$\begin{aligned} 1) \quad & 2a - 6b = -2 \\ & 6a - 6b + c = 24 \\ & a - 4c = -19 \end{aligned}$$

$$\begin{aligned} 2) \quad & x = 5y - 1 \\ & 2x + 4z = -28 \\ & y = -x - 2z - 15 \end{aligned}$$

$$\begin{aligned} 3) \quad & 6b - 6c = 6 \\ & a + b - 4c = -18 \\ & -5a + b - c = 21 \end{aligned}$$

$$\begin{aligned} 4) \quad & 5x + y = -18 \\ & x - 2y - z = 8 \\ & 6x - 2y + z = -17 \end{aligned}$$

$$\begin{aligned} 5) \quad & r + s - 4t = 8 \\ & -s + 2t = -4 \\ & -4r + 6s + 3t = -20 \end{aligned}$$

$$\begin{aligned} 6) \quad & 4a - 4b - 4c = -20 \\ & -3a - 5b + 4c = 9 \\ & -5a - 4b - 6c = -6 \end{aligned}$$

$$\begin{aligned} 7) \quad & -a - 2b + 2c = -2 \\ & -3a - 3b + c = -12 \\ & -2a - 6b - c = 0 \end{aligned}$$

$$\begin{aligned} 8) \quad & y = 4z + 2 \\ & -2x + 2z = -8 \\ & 5x - y - z = -24 \end{aligned}$$

$$\begin{aligned} 9) \quad & a - 6b + 6c = -15 \\ & -a + 5b = 13 \\ & -a + 6b - 6c = 15 \end{aligned}$$

$$\begin{aligned} 10) \quad & -5r - 2s + 4t = -12 \\ & -3r - 3s - t = -7 \\ & -3r - 4s + 4t = 0 \end{aligned}$$

Answers to Systems of Equation 3 Variables (ID: 1)

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|------------------------------|-------------------|-----------------|-------------------|
| 1) $(5, 2, 6)$ | 2) $(-6, -1, -4)$ | 3) $(-4, 6, 5)$ | 4) $(-3, -3, -5)$ |
| 5) $(-4, -4, -4)$ | 6) $(-2, 1, 2)$ | 7) $(6, -2, 0)$ | 8) No solution |
| 9) Infinitely many solutions | 10) $(4, -2, 1)$ | | |