

## Solving systems of equations with 3 variables

Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each system.**

$$\begin{aligned} 1) \quad & -4x + 5y + 4z = -25 \\ & 3x + 3y + z = 23 \\ & 5x - 5y + 3z = 3 \end{aligned}$$

$$\begin{aligned} 2) \quad & 2x + 2y - 4z = -22 \\ & x - 6y - 5z = -1 \\ & -x - y - 2z = -13 \end{aligned}$$

$$\begin{aligned} 3) \quad & -5x - 4y + 6z = -15 \\ & -3x + y - 5z = 5 \\ & 2x + 4y + 2z = -26 \end{aligned}$$

$$\begin{aligned} 4) \quad & a + 2b - 4c = 16 \\ & -5a - 6b + 3c = -21 \\ & -a - 6b + 2c = -18 \end{aligned}$$

$$\begin{aligned} 5) \quad & 2a - 6b + 4c = 4 \\ & -2a - b + 3c = -11 \\ & -5a + 3b - 5c = -1 \end{aligned}$$

$$\begin{aligned} 6) \quad & -r - 3s + 3t = 5 \\ & 4r + s + 6t = 2 \\ & 6s - 6t = -12 \end{aligned}$$

$$\begin{aligned} 7) \quad & 2x - 3y - z = -12 \\ & 6x - y - 3z = -28 \\ & 4x + 6y + 3z = -17 \end{aligned}$$

$$\begin{aligned} 8) \quad & 3a - 2b - 5c = 6 \\ & -3a + b + 4c = -3 \\ & 6a - 3b + 4c = -30 \end{aligned}$$

$$\begin{aligned} 9) \quad & 4r + 4s - 4t = -12 \\ & -4r - 3s - 6t = -26 \\ & -3r - 2s - 4t = -17 \end{aligned}$$

$$\begin{aligned} 10) \quad & -5x - 6y - 4z = -16 \\ & -4x + 2y + z = -5 \\ & 5x - 6y + z = -11 \end{aligned}$$

$$\begin{aligned} 11) \quad & 7a - 5b - 6c = 3 \\ & 4a + 4b - 4c = 8 \\ & -2a + 5b - 6c = -5 \end{aligned}$$

$$\begin{aligned} 12) \quad & 2x + 2y + 5z = -35 \\ & -x + 2y - 4z = 7 \\ & -2x + 5y + 2z = -21 \end{aligned}$$

$$\begin{aligned} 13) \quad & 3a - 4b + 4c = -7 \\ & -2a + 2b - 7c = -24 \\ & -2a + 4b - 7c = -16 \end{aligned}$$

$$\begin{aligned} 14) \quad & -x + 5y + 4z = -8 \\ & -2x - 2y + 3z = 31 \\ & x - 2y - 2z = 0 \end{aligned}$$

$$\begin{aligned} 15) \quad & 6x - y - 7z = 11 \\ & -6x + 2y - 5z = 3 \\ & 6x - 3y + 3z = -3 \end{aligned}$$

$$\begin{aligned} 16) \quad & 4a + 4b + 7c = -35 \\ & -4a - 2b - 6c = 26 \\ & 4a + 6b - 6c = -30 \end{aligned}$$

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**Solve each system.**

1)  $-4x + 5y + 4z = -25$

$3x + 3y + z = 23$

$5x - 5y + 3z = 3$

$(6, 3, -4)$

2)  $2x + 2y - 4z = -22$

$x - 6y - 5z = -1$

$-x - y - 2z = -13$

$(5, -4, 6)$

3)  $-5x - 4y + 6z = -15$

$-3x + y - 5z = 5$

$2x + 4y + 2z = -26$

$(3, -6, -4)$

4)  $a + 2b - 4c = 16$

$-5a - 6b + 3c = -21$

$-a - 6b + 2c = -18$

$(0, 2, -3)$

5)  $2a - 6b + 4c = 4$

$-2a - b + 3c = -11$

$-5a + 3b - 5c = -1$

$(2, -2, -3)$

6)  $-r - 3s + 3t = 5$

$4r + s + 6t = 2$

$6s - 6t = -12$

$(1, -2, 0)$

7)  $2x - 3y - z = -12$

$6x - y - 3z = -28$

$4x + 6y + 3z = -17$

$(-5, 1, -1)$

8)  $3a - 2b - 5c = 6$

$-3a + b + 4c = -3$

$6a - 3b + 4c = -30$

$(-3, 0, -3)$

$$\begin{aligned} 9) \quad & 4r + 4s - 4t = -12 \\ & -4r - 3s - 6t = -26 \\ & -3r - 2s - 4t = -17 \\ & \quad \quad \quad (-1, 2, 4) \end{aligned}$$

$$\begin{aligned} 10) \quad & -5x - 6y - 4z = -16 \\ & -4x + 2y + z = -5 \\ & 5x - 6y + z = -11 \\ & \quad \quad \quad (2, 3, -3) \end{aligned}$$

$$\begin{aligned} 11) \quad & 7a - 5b - 6c = 3 \\ & 4a + 4b - 4c = 8 \\ & -2a + 5b - 6c = -5 \\ & \quad \quad \quad (2, 1, 1) \end{aligned}$$

$$\begin{aligned} 12) \quad & 2x + 2y + 5z = -35 \\ & -x + 2y - 4z = 7 \\ & -2x + 5y + 2z = -21 \\ & \quad \quad \quad (-5, -5, -3) \end{aligned}$$

$$\begin{aligned} 13) \quad & 3a - 4b + 4c = -7 \\ & -2a + 2b - 7c = -24 \\ & -2a + 4b - 7c = -16 \\ & \quad \quad \quad (-5, 4, 6) \end{aligned}$$

$$\begin{aligned} 14) \quad & -x + 5y + 4z = -8 \\ & -2x - 2y + 3z = 31 \\ & x - 2y - 2z = 0 \\ & \quad \quad \quad (-2, -6, 5) \end{aligned}$$

$$\begin{aligned} 15) \quad & 6x - y - 7z = 11 \\ & -6x + 2y - 5z = 3 \\ & 6x - 3y + 3z = -3 \\ & \quad \quad \quad (1, 2, -1) \end{aligned}$$

$$\begin{aligned} 16) \quad & 4a + 4b + 7c = -35 \\ & -4a - 2b - 6c = 26 \\ & 4a + 6b - 6c = -30 \\ & \quad \quad \quad (-3, -4, -1) \end{aligned}$$