

Systems of Equations: 2 and 3 Variable Systems

Date _____ Block _____

Solve each system by elimination.

1)
$$\begin{aligned} -6x - 7y &= -7 \\ 6x + 10y &= 10 \end{aligned}$$

2)
$$\begin{aligned} 8x - 5y &= 23 \\ 8x + 10y &= -22 \end{aligned}$$

3)
$$\begin{aligned} 4x + 10y &= 2 \\ x + 6y &= 4 \end{aligned}$$

4)
$$\begin{aligned} -x + 10y &= -1 \\ -5x - 6y &= -5 \end{aligned}$$

5)
$$\begin{aligned} 7x - 20y &= -8 \\ 3x + 10y &= -22 \end{aligned}$$

6)
$$\begin{aligned} -10x - 12y &= 16 \\ -2x + 2y &= -10 \end{aligned}$$

7)
$$\begin{aligned} -3x + 2y &= -36 \\ 2 + 11y &= -8x \end{aligned}$$

8)
$$\begin{aligned} 2x &= -16y - 2 \\ 48y &= -6 - 6x \end{aligned}$$

9)
$$\begin{aligned} -3y &= 2x - 17 \\ 16 - 7x + 4y &= 0 \end{aligned}$$

10)
$$\begin{aligned} -10x + 50y &= -28 \\ -18 + 6x &= 30y \end{aligned}$$

11)
$$\begin{aligned} 8x + 3y - 3z &= -17 \\ -2x - 2y + 2z &= -2 \\ 2x + 4y - 4z &= 12 \end{aligned}$$

12)
$$\begin{aligned} 7x - 4y + 5z &= 22 \\ -x + 6y - z &= 40 \\ 8x - 8y - 5z &= -13 \end{aligned}$$

13)
$$\begin{aligned} 6x - 3y + 3z &= -27 \\ -3x + y - 2z &= -1 \\ x - 6y - 5z &= -28 \end{aligned}$$

14)
$$\begin{aligned} -3x - 5y + z &= 25 \\ 4x + 2y + 4z &= -14 \\ 2x + 2y + 3z &= -9 \end{aligned}$$

15)
$$\begin{aligned} 2x + y + 5z &= -11 \\ -5x - 2y - z &= -17 \\ -x - 5y - z &= -14 \end{aligned}$$

16)
$$\begin{aligned} 3x - 4y - 2z &= -20 \\ 2x - 6y - 2z &= -22 \\ 6x + 5y - z &= -5 \end{aligned}$$

17)
$$\begin{aligned} 4x - 5y + 4z &= -9 \\ 2x - 3y - z &= -10 \\ 2x + 6y - 6z &= 30 \end{aligned}$$

18)
$$\begin{aligned} x + 3y - z &= -3 \\ -3x + y - 4z &= 30 \\ 2y + 6z &= -18 \end{aligned}$$

19)
$$\begin{aligned} y &= -6x - 6z - 8 \\ -2y - 6z &= 10 \\ -2x - y + 7z &= -5 \end{aligned}$$

20)
$$\begin{aligned} 3x - 3y - 4z &= -21 \\ y &= 2x - 7z + 30 \\ -3x - 7z &= -3 \end{aligned}$$

Systems of Equations: 2 and 3 Variable Systems

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Solve each system by elimination.

$$\begin{aligned} 1) \quad & -6x - 7y = -7 \\ & 6x + 10y = 10 \\ & \quad (0, 1) \end{aligned}$$

$$\begin{aligned} 3) \quad & 4x + 10y = 2 \\ & x + 6y = 4 \\ & \quad (-2, 1) \end{aligned}$$

$$\begin{aligned} 5) \quad & 7x - 20y = -8 \\ & 3x + 10y = -22 \\ & \quad (-4, -1) \end{aligned}$$

$$\begin{aligned} 7) \quad & -3x + 2y = -36 \\ & 2 + 11y = -8x \\ & \quad (8, -6) \end{aligned}$$

$$\begin{aligned} 9) \quad & -3y = 2x - 17 \\ & 16 - 7x + 4y = 0 \\ & \quad (4, 3) \end{aligned}$$

$$\begin{aligned} 11) \quad & 8x + 3y - 3z = -17 \\ & -2x - 2y + 2z = -2 \\ & 2x + 4y - 4z = 12 \\ & \quad \text{Infinitely many solutions} \end{aligned}$$

$$\begin{aligned} 13) \quad & 6x - 3y + 3z = -27 \\ & -3x + y - 2z = -1 \\ & x - 6y - 5z = -28 \\ & \quad \text{No solution} \end{aligned}$$

$$\begin{aligned} 15) \quad & 2x + y + 5z = -11 \\ & -5x - 2y - z = -17 \\ & -x - 5y - z = -14 \\ & \quad (3, 3, -4) \end{aligned}$$

$$\begin{aligned} 17) \quad & 4x - 5y + 4z = -9 \\ & 2x - 3y - z = -10 \\ & 2x + 6y - 6z = 30 \\ & \quad (3, 5, 1) \end{aligned}$$

$$\begin{aligned} 19) \quad & y = -6x - 6z - 8 \\ & -2y - 6z = 10 \\ & -2x - y + 7z = -5 \\ & \quad (0, -2, -1) \end{aligned}$$

$$\begin{aligned} 2) \quad & 8x - 5y = 23 \\ & 8x + 10y = -22 \\ & \quad (1, -3) \end{aligned}$$

$$\begin{aligned} 4) \quad & -x + 10y = -1 \\ & -5x - 6y = -5 \\ & \quad (1, 0) \end{aligned}$$

$$\begin{aligned} 6) \quad & -10x - 12y = 16 \\ & -2x + 2y = -10 \\ & \quad (2, -3) \end{aligned}$$

$$\begin{aligned} 8) \quad & 2x = -16y - 2 \\ & 48y = -6 - 6x \\ & \quad \text{Infinite number of solutions} \end{aligned}$$

$$\begin{aligned} 10) \quad & -10x + 50y = -28 \\ & -18 + 6x = 30y \\ & \quad \text{No solution} \end{aligned}$$

$$\begin{aligned} 12) \quad & 7x - 4y + 5z = 22 \\ & -x + 6y - z = 40 \\ & 8x - 8y - 5z = -13 \\ & \quad (7, 8, 1) \end{aligned}$$

$$\begin{aligned} 14) \quad & -3x - 5y + z = 25 \\ & 4x + 2y + 4z = -14 \\ & 2x + 2y + 3z = -9 \\ & \quad (-3, -3, 1) \end{aligned}$$

$$\begin{aligned} 16) \quad & 3x - 4y - 2z = -20 \\ & 2x - 6y - 2z = -22 \\ & 6x + 5y - z = -5 \\ & \quad (-2, 2, 3) \end{aligned}$$

$$\begin{aligned} 18) \quad & x + 3y - z = -3 \\ & -3x + y - 4z = 30 \\ & 2y + 6z = -18 \\ & \quad (-6, 0, -3) \end{aligned}$$

$$\begin{aligned} 20) \quad & 3x - 3y - 4z = -21 \\ & y = 2x - 7z + 30 \\ & -3x - 7z = -3 \\ & \quad (-6, -3, 3) \end{aligned}$$