

Solving Systems of Equations by Substitution or Elimination

Solve each system by elimination.

1) $x - 7y = 18$
 $4x - 14y = 30$

2) $9x + 3y = -15$
 $-18x - 6y = 30$

3) $6x - 12y = 0$
 $x - 6y = 4$

4) $18x + 4y = -4$
 $-9x + 8y = -8$

$$\begin{aligned} 5) \quad & -2x + 7y = 4 \\ & -5x - 9y = 10 \end{aligned}$$

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

$$\begin{aligned} 7) \quad & 6x + 10y = 20 \\ & 4x - 6y = 26 \end{aligned}$$

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

Solve each system by substitution.

$$\begin{aligned} 9) \quad & y = -2x + 6 \\ & 8x - 3y = -4 \end{aligned}$$

$$\begin{aligned} 10) \quad & y = 5x + 9 \\ & 4x + 6y = 20 \end{aligned}$$

$$\begin{aligned} 11) \quad & y = x + 5 \\ & -2x + 7y = 20 \end{aligned}$$

$$\begin{aligned} 12) \quad & y = -3x + 15 \\ & -x - y = -9 \end{aligned}$$

$$\begin{aligned} 13) \quad & y = -2x + 7 \\ & y = -4x + 15 \end{aligned}$$

$$\begin{aligned} 14) \quad & y = 2x + 2 \\ & y = 5x - 7 \end{aligned}$$

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

$$\begin{aligned} 16) \quad & -3x + y = 0 \\ & -2x - 7y = -23 \end{aligned}$$

$$\begin{aligned} 17) \quad x - 2y &= -3 \\ 8x - 6y &= 16 \end{aligned}$$

$$\begin{aligned} 18) \quad -2x - 2y &= 20 \\ x - 7y &= 14 \end{aligned}$$

$$\begin{aligned} 19) \quad -2x - 5y &= 16 \\ 2x - 3y &= -16 \end{aligned}$$

$$\begin{aligned} 20) \quad -5x + 2y &= 11 \\ -3x + 4y &= -13 \end{aligned}$$

$$\begin{aligned} 21) \quad -7x - 5y &= -8 \\ 8x - 3y &= -17 \end{aligned}$$

$$\begin{aligned} 22) \quad 2x - 3y &= 18 \\ 5x - 3y &= 9 \end{aligned}$$

Answers to Solving Systems of Equations by Substitution or Elimination

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|----------------|---------------------------------|----------------|---------------|
| 1) $(-3, -3)$ | 2) Infinite number of solutions | 3) $(-2, -1)$ | |
| 4) $(0, -1)$ | 5) $(-2, 0)$ | 6) $(-9, -10)$ | 7) $(5, -1)$ |
| 8) $(2, -3)$ | 9) $(1, 4)$ | 10) $(-1, 4)$ | 11) $(-3, 2)$ |
| 12) $(3, 6)$ | 13) $(4, -1)$ | 14) $(3, 8)$ | 15) $(0, -3)$ |
| 16) $(1, 3)$ | 17) $(5, 4)$ | 18) $(-7, -3)$ | 19) $(-8, 0)$ |
| 20) $(-5, -7)$ | 21) $(-1, 3)$ | 22) $(-3, -8)$ | |