

Solving Systems by Substitution

Solve each system by substitution.

1) $5x + 3y = -9$
 $y = 3x - 17$

2) $-6x + 8y = -2$
 $y = -8x - 9$

3) $y = -4x + 21$
 $-7x + 4y = -8$

4) $-6x - 6y = -12$
 $y = -2x + 7$

5) $-5x - 6y = -2$
 $y = x - 7$

6) $y = -2x + 5$
 $-3x - 3y = -18$

7) $3x - 4y = 1$
 $y = -7x + 23$

8) $18x + 3y = 1$
 $y = -6x$

9) $y = x + 5$
 $2x + 2y = -10$

10) $4x - 2y = 14$
 $y = 8x - 7$

$$\begin{aligned} 11) \quad & y = -3x + 7 \\ & 8x + 3y = 18 \end{aligned}$$

$$\begin{aligned} 12) \quad & 8x - 8y = -16 \\ & y = 6x - 23 \end{aligned}$$

$$\begin{aligned} 13) \quad & y = -2x + 7 \\ & -4x + 3y = -9 \end{aligned}$$

$$\begin{aligned} 14) \quad & y = -5x \\ & 7x + 5y = 0 \end{aligned}$$

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

$$\begin{aligned} 16) \quad & -3x + 2y = 16 \\ & y = -4x - 14 \end{aligned}$$

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

$$\begin{aligned} 18) \quad & -4x - y = -14 \\ & y = -5x + 16 \end{aligned}$$

$$\begin{aligned} 19) \quad & -2x - 3y = -15 \\ & y = -4x + 5 \end{aligned}$$

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

$$\begin{aligned} 21) \quad & y = x - 3 \\ & -x + 6y = -18 \end{aligned}$$

$$\begin{aligned} 22) \quad & y = 0 \\ & 7x + 7y = 7 \end{aligned}$$

$$\begin{aligned} 23) \quad & y = -5 \\ & 7x + 2y = -24 \end{aligned}$$

$$\begin{aligned} 24) \quad & y = 5x \\ & -3x + 3y = 12 \end{aligned}$$

$$\begin{aligned} 25) \quad & 5x - y = -17 \\ & y = -8 \end{aligned}$$

$$\begin{aligned} 26) \quad & y = -8x - 14 \\ & 4x + 2y = -4 \end{aligned}$$

$$\begin{aligned} 27) \quad & y = 3 \\ & 7x + 8y = 10 \end{aligned}$$

$$\begin{aligned} 28) \quad & y = -5x + 20 \\ & -5x - 8y = 15 \end{aligned}$$

$$\begin{aligned} 29) \quad & 12x + 3y = -1 \\ & y = -4x + 6 \end{aligned}$$

$$\begin{aligned} 30) \quad & 9x + 3y = -9 \\ & y = -3x - 3 \end{aligned}$$

$$\begin{aligned} 31) \quad & y = 3x + 1 \\ & -x - 4y = 22 \end{aligned}$$

$$\begin{aligned} 32) \quad & -x + 7y = -11 \\ & y = -2x + 7 \end{aligned}$$

$$\begin{aligned} 33) \quad & -8x - y = -3 \\ & y = 3x + 3 \end{aligned}$$

$$\begin{aligned} 34) \quad & -x - 2y = -5 \\ & y = -8x - 20 \end{aligned}$$

$$\begin{aligned} 35) \quad & 4x + 3y = 19 \\ & y = -2x + 11 \end{aligned}$$

$$\begin{aligned} 36) \quad & y = -2x + 1 \\ & 5x + 7y = 7 \end{aligned}$$

$$\begin{aligned} 37) \quad & y = 2x - 6 \\ & -7x - 6y = -2 \end{aligned}$$

$$\begin{aligned} 38) \quad & y = -3 \\ & 5x - 6y = -17 \end{aligned}$$

$$\begin{aligned} 39) \quad & y = 5x - 3 \\ & -7x + 4y = 14 \end{aligned}$$

$$\begin{aligned} 40) \quad & y = -4x - 10 \\ & -2x + 6y = -8 \end{aligned}$$

Answers to Solving Systems by Substitution (ID: 1)

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|-----------------|----------------------------------|--------------|----------------|
| 1) (3, -8) | 2) (-1, -1) | 3) (4, 5) | 4) (5, -3) |
| 5) (4, -3) | 6) (-1, 7) | 7) (3, 2) | 8) No solution |
| 9) (-5, 0) | 10) (0, -7) | 11) (3, -2) | 12) (5, 7) |
| 13) (3, 1) | 14) (0, 0) | 15) (-2, 1) | 16) (-4, 2) |
| 17) (-2, 2) | 18) (2, 6) | 19) (0, 5) | 20) (0, -2) |
| 21) (0, -3) | 22) (1, 0) | 23) (-2, -5) | 24) (1, 5) |
| 25) (-5, -8) | 26) (-2, 2) | 27) (-2, 3) | 28) (5, -5) |
| 29) No solution | 30) Infinite number of solutions | 31) (-2, -5) | |
| 32) (4, -1) | 33) (0, 3) | 34) (-3, 4) | 35) (7, -3) |
| 36) (0, 1) | 37) (2, -2) | 38) (-7, -3) | 39) (2, 7) |
| 40) (-2, -2) | | | |