

Lesson 2 Solving a System with Substitution

Substitution Method

1. Isolate one of the variables in one of the equations.
2. Substitute this expression into the other equation in order to solve for the other variable.
3. Substitute this value into either equation to solve for the second variable.
4. Check the solution in each of the original equations. (optional)

Example 1

Solve, algebraically.

$$3x + 4y = 15$$

$$x - y = 5$$

Example 2

Solve, algebraically.

$$x + y = 8$$

$$x - 3y = 4$$

Example 3

Solve, algebraically.

$$\frac{x}{3} + \frac{y}{6} = \frac{1}{2}$$

$$3x + 2y = 4$$

Example 4

Solve, algebraically

$$0.04x - 0.6y = 40$$

$$x + y = 6000$$

Example 5

Solve, algebraically.

$$y = 3x - 4$$

$$6x - 2y = 8$$

Example 6

Solve, algebraically.

$$y = 2x - 4$$

$$2x - y + 1 = 0$$