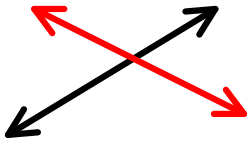
Solving Systems of Equations by Substitution

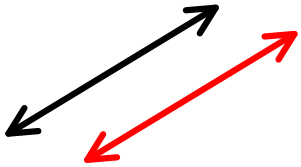


Intersecting Lines

One Solution

Consistent

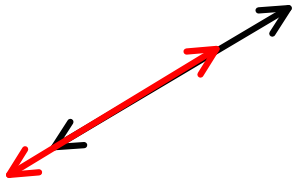
Independent



Parallel Lines

No Solution

Inconsistent



Coinciding Lines

Infinite Solutions

Consistent

Dependent

Step 1: Solve for one of the variables in one of the equations.

Step 2: Substitute into the other equation and solve for the variables.

Step 3: Check your answer.

Directions: Solve each system of equations by the substitution method.

1. $y = x + 3$

   $3x + 2y = 26$

2. $7x - 3y = 23$

   $x + 2y = 13$

3. $y = 3x$

   $\frac{1}{3}x + \frac{1}{2}y = 11$

4. $2x - y = -1$
   $4x - 2y = 4$

5. $y = 2x - 3$
   $3y = 6x - 9$