# Solving Systems By Substitution

**Steps:**

1. Solve one equation for one variable (choose an easy one!)
2. Substitute the equation from #1 into the other equation
3. Solve the new equation
4. Substitute your answer to find the other variable

**EXAMPLES**

$x + 2y = 8$ $\quad$ $y = 2x - 1$

No need to solve, y is by itself!

Substitute!

$$x + 2y = 8$$

$$x + 2(_____) = 8$$

$$x + _____ = 8$$

$$_____ = 8$$

$$_____ = ____$$

$$x = ____$$

Substitute into either equation!

$$y = 2x - 1$$

$$y = 2(____) - 1$$

$$y = ____ - 1$$

$$y = ____$$

**Solution:**

$y - 2x = -17$ $\quad$ $x + y = 16$

Solve one equation for x or y!

$$x + y = 16$$

$$x =$$

Substitute!

$$y - 2x = -17$$

$$y - 2(_____) = -17$$

$$y - _____ = -17$$

$$_____ = -17$$

$$_____ = ____$$

$$y = ____$$

Substitute into either equation!

$$x + y = 16$$

$$x + ____ = 16$$

$$x = ____$$

**Solution:**