

Solving for 2 unknowns using Adding or Subtracting Method

Example

$$6x + y = 20 \quad x + y = 10$$

1. Add or subtract the 2 equations to eliminate one of the variables. In our example we will subtract. This will eliminate the y's.

$$\begin{array}{r} 6x + y = 20 \\ -x + y = 10 \\ \hline 5x = 10 \end{array}$$

2. Solve: $5x = 10 \quad x = 2$

3. Substitute: the value for x in the first equation and solve for y.

$$6(2) + y = 20$$

$$12 + y = 20 \quad \text{subtract 12 from both sides}$$

$$y = 8$$

4. Check

$$x + y = 10 \quad 2 + 8 = 10 \quad 10 = 10$$