

**Example**                      **Solve**                       $3x + 10y = 2$   
 $x - 2y = 6$

First, determine which equation has the easiest variable to solve for. I'm choosing x in the second equation because its' coefficient is 1. Make it easy or you will end up with fractions – think first!

$$\begin{array}{l} 3x + 10y = 2 \\ x - 2y = 6, \end{array} \quad \text{solving for x,} \quad x = 6 + 2y$$

Everywhere you see an x in the **OTHER** equation, substitute  $6 + 2y$ . The other equation is:

$$\begin{array}{ll} 3x + 10y = 2 & \text{Given} \\ 3(6 + 2y) + 10y = 2 & \text{Substitute} \\ 18 + 6y + 10y = 2 & \text{D-Prop} \\ 18 + 16y = 2 & \text{Now in } ax + b = c \text{ format} \\ 16y = -16 & \\ y = -1 & \end{array}$$

Substitute  $y = -1$  into either of the original equations, you find  $x = 4$ .  
(4, -1).