

Method 3: Solve by Elimination:

Feb 14/17

Steps:

1. Place both equations in **Standard form**, $Ax + By = C$
2. Use multiplication to create 2 terms to have the opposite value (ex. $3x$ and $-3x$)
3. Add or subtract each set of like terms resulting in the **elimination** of the one variable.
4. **Solve**
5. Use the value from Step 4 and substitute it into an equation to solve for the other variable
6. **State the POI** (Point of Intersection) by stating "The POI is (,)"

Homework - Assignment #1 - Elimination

Complete first side

Complete back side for BONUS

Sub the value you
solved into one of the
equations

you need to have opposite values

Examples

$$\begin{cases} 4x + 3y = -15 \\ x - 3y = 0 \end{cases}$$

$$\begin{array}{r} 4x + 3y = -15 \\ x - 3y = 0 \end{array}$$

$$\begin{array}{r} 4x + 3y = -15 \\ 5x = -15 \end{array}$$

$$x = -3$$

$$\begin{array}{r} +3(-3) - 3y = 0 + 3 \\ -3y = 3 \\ -3y = 3 \\ y = -1 \end{array}$$

$$POI = (-3, -1)$$

$$\begin{array}{l} 3x + 4y = -6 \\ 5x + 6y = -8 \end{array}$$

$$\begin{cases} -5x + 3y = -1 \\ -7x + 3y = -11 \end{cases}$$

$$\begin{array}{r} -5x + 3y = -1 \\ +7x - 3y = 11 \\ \hline 2x = 10 \\ x = 5 \end{array}$$

$$\begin{array}{l} 4x = -2y + 24 \\ -x - 3y = -21 \end{array}$$

$$\begin{array}{r} -5x + 3y = -1 \\ -5(5) + 3y = -1 \\ +25 + 3y = -1 \\ 3y = -26 \\ y = -\frac{26}{3} \end{array}$$

$$POI = (5, 8)$$