

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

Multiply to create elimination

$$5(3x + 4y = -6)$$

$$15x + 20y = -30$$

$$-3(5x + 6y = -8)$$

$$-15x - 18y = 24$$

$$15x + 20y = 30$$

$$+ \quad \underline{\hspace{10em}}$$

$$2y = 6$$

$$y = 3$$

Find x

$$3x + 4y = -6$$

$$3x + 4(-3) = -6$$

$$3x - 12 = -6$$

$$3x = 6$$

$$x = 2$$

∴ POI is (2, 3)

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Elimination Examples

$$4x = -2y + 24$$

$$-x - 3y = -21$$

Put equation in standard form

$$4x = -2y + 24$$

$$4x + 2y = 24$$

$$-x - 3y = -21$$

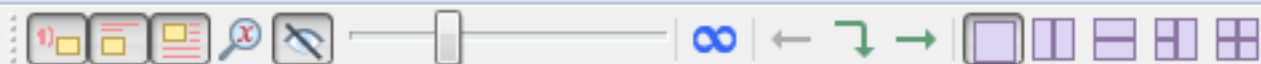
Multiply to create elimination

$$4(-x - 3y = -21)$$

$$-4x - 12y = -84$$

$$4x + 2y = 24$$

$$-10y = -60 \quad y = 6$$



Solve each system by elimination.

$$\begin{array}{r} 1) \quad 3x + 2y = -9 \\ + \quad -6x - 2y = 18 \\ \hline \end{array}$$

$$\begin{array}{r} -3x = 9 \\ \hline -3 \quad -3 \\ \hline x = -3 \end{array}$$

Find y

$$3x + 2y = -9$$

$$3(-3) + 2y = -9$$

$$\begin{array}{r} +9 \quad -9 + 2y = -9 + 9 \\ \hline 2y = 0 \end{array} \quad y = 0$$

$\therefore$ POI is $(-3, 0)$

Answers:

② $(-2, -1)$

③ $(3, 1)$

④ $(0, 3)$

⑤ $(0, -1)$

⑥ $(0, -2)$