

## 8.2 day 2 Elimination

Ex 1

$$\begin{array}{r} x + 10y = 6 \\ + \quad x + 3y = -6 \end{array}$$

$$13y = 0$$

$$y = 0$$

$$x + 10(0) = 6$$

$$x = 6$$

$$\boxed{(6, 0)}$$

Steps

① Look for numbers that are the same in front of  $x$  or  $y$   
\*if #'s are not the same, multiply one or both equations

Same sign  $\rightarrow$  Subtract

opposite sign  $\rightarrow$  add

② Add/subtract and solve for  $x$  or  $y$

③ Plug  $x$  or  $y$  from step 2 into one of original equations

④ Write in coordinate form

Ex 2

$$\begin{array}{r} -10x + 10y = -20 \\ - \quad (-9x + 10y = -25) \end{array}$$

$$-x = 5$$

$$x = -5$$

$$-9(-5) + 10y = -25$$

$$45 + 10y = -25$$

$$10y = -70$$

$$y = -7$$

$$\boxed{(-5, -7)}$$

Ex 3:  $(-7x - 2y = -15) \times (-2)$

$$-14x - 7y = -21$$

$$\begin{array}{r} 14x + 4y = 30 \\ + \quad -14x - 7y = -21 \end{array}$$

$$-3y = 9$$

$$y = -3$$

$$-14x - 7(-3) = -21$$

$$-14x + 21 = -21$$

$$-14x = -42$$

$$x = 3$$

$$\boxed{3, -3}$$