

Steps:

- ① Identify which variable is the easiest to isolate
- ② Substitute the equation from step 1 into the other equation
- ③ Solve the equation from step 2
- ④ Use solution from step 3 to calculate the value of the other variable

ex $3 + 2x = y + 10 \leftarrow$
 $3(y = \frac{1}{3}x + 3) \rightarrow 3y = x + 9$
 $\leftarrow$ already solved for y $\frac{3y - 9 = x}{3y - 9 = x}$

① $3 + 2x = y + 10 \leftarrow$
 ② $(3y - 9) = x \leftarrow$ BEST

$3 + 2(3y - 9) = y + 10$

③ $3 + 2(3y - 9) = y + 10$

$3 + 6y - 18 = y + 10$

$6y - 15 = y + 10$

$-y + 15 = 10 + 15$

$5y = 25$

$y = 5$

④ $3y - 9 = x$ $3 + 2x = y + 10$
 $3(5) - 9 = x$ $3 + 2x = (5) + 10$
 $15 - 9 = x$ $3 + 2x = 15$
 $6 = x$ $-3 \quad -3$
 $\frac{2x}{2} = \frac{12}{2}$
 $x = 6$

Solution: $x = 6$ $y = 5$

ex $2y = 4x - 10$
 $2x + 6 = y + 5$
 $-5 \quad -5$
 $(2x + 1) = y \leftarrow$

① $2(2x + 1) = 4x - 10$

② $4x + 2 = 4x - 10$
 $+10 \quad +10$

$4x + 12 = 4x$ $\left. \begin{matrix} 4x + 12 = 4x \\ -4x \end{matrix} \right\} x's \text{ cancel}$

$12 = 0 \leftarrow$

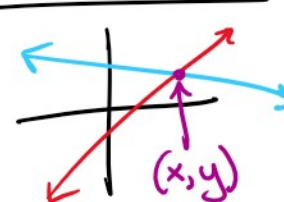
FALSE

No Solution !!

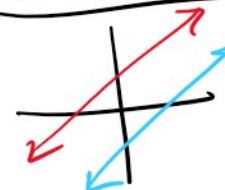
$3 = 3$ $0 = 0$ TRUE
 (no x's) (no x's)

Infinite Solutions

One Solution



No Solution



Infinite Solutions

