

Essential Question:

Questions:

Notes:

To solve a system of equations algebraically...

1) Eliminate 1 variable

2) solve for the other

3) Substitute + solve for the 1st

$$\text{ex) } \begin{cases} 2x - y = 7 \\ 3x + y = 3 \end{cases}$$

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

← Added the equations b/c y's cancel

→ solve for x.

$$3x + y = 3$$

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

$$6 + y = 3$$

$$-6 \quad | \quad -6$$

$$y = -3$$

Plug back in and solve for y

$$x = 2, y = -3.$$

$$(2, -3)$$

→ Intersection!

Summary:

Questions:

Notes:
ex)

$$\begin{cases} 2x - 3y = 17 \\ -2x - y = 3 \end{cases}$$

$$\begin{array}{r|l} -4y & = 20 \\ \hline -4 & -4 \end{array}$$

$$y = -5$$

$$-2x - y = 3$$

$$-2x - (-5) = 3$$

$$-2x + 5 = 3$$

$$\begin{array}{r|l} -5 & -5 \\ \hline -2x & = -2 \end{array}$$

$$-2x = -2$$

$$-2 \quad -2$$

$$x = 1$$

Summary: