



# Graphing Systems of Equations

Essential Question:

Questions:

Notes:

A system of equations is...  
 2 or more equations that must be solved together

$$\begin{cases} y = 2x + 4 \\ y = 3x + 4 \end{cases}$$

$$y = 2x + 4$$

$$4 = 2(0) + 4$$

$$4 = 4 \text{ True!}$$

$$x = 0$$

$$y = 4$$

$$y = 3x + 4$$

$$4 = 3(0) + 4$$

$$4 = 4 \text{ True!}$$

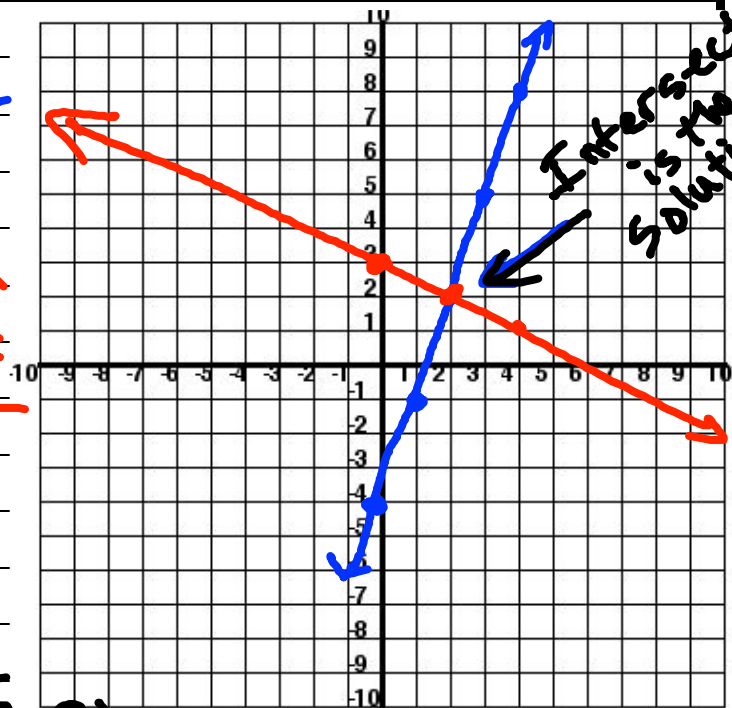
$$\begin{cases} x + 2y = 6 & 1 \\ y = 3x - 4 & 2 \end{cases}$$

$$x + 2y = 6$$

$$\begin{array}{r} -x \qquad -x \\ \hline 2y = 6 - 1x \\ \hline \frac{2y}{2} = \frac{6-x}{2} \end{array}$$

$$y = 3 - \frac{1}{2}x$$

Solution:  
 $x = 2$   $y = 2$   
 as a point:  $(2, 2)$



Summary:

$(2, 2)$

Questions:

Notes:

$$\begin{cases} 2x = -6 \\ -4y = -8 \end{cases}$$

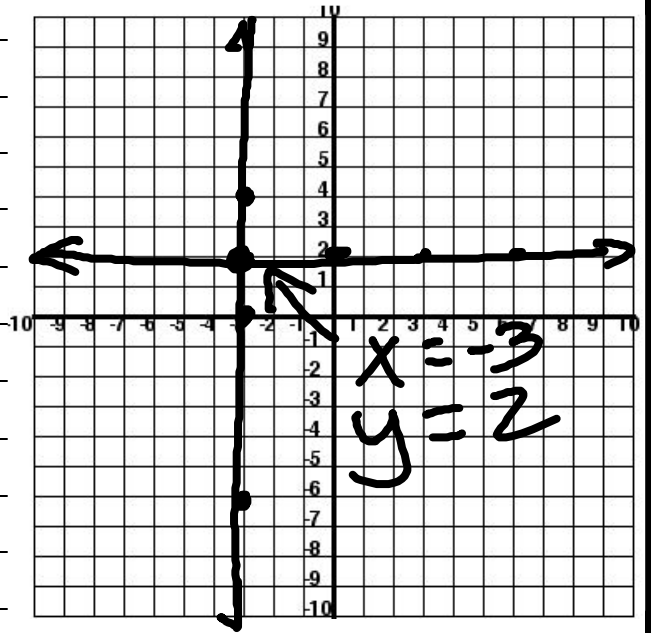
$$\frac{2x}{2} = \frac{-6}{2}$$

$$x = -3$$

vertical  
line at  
 $x = -3$

$$\frac{-4y}{-4} = \frac{-8}{-4}$$

$$y = 2 \leftarrow \text{horizontal line}$$



Summary: