Solving Systems of Equations with Substitution--No Context 4 Quadrants (Negative Values)

Big Ideas: A "solution" to a set of linear equations (system) is where the lines cross (this is where they are equal). Substitution is best used when the equations are in slope-intercept form.

Example:

a. Find the "solution" to this system using substitution.

$$\begin{cases} y = x - 8 \\ y = -2x + 1 \end{cases}$$

$-2x + 1 = x - 8$

$+2x \quad +2x$

$1 = 3x - 8$

$+8 \quad +8$

$\frac{9}{3} = \frac{3x}{3}$

$3 = x$

$y = x - 8$

$y = 3 - 8$

$y = -5$

Intersection (3, -5)

b. Graph the system of equations.
Be sure to label the lines.