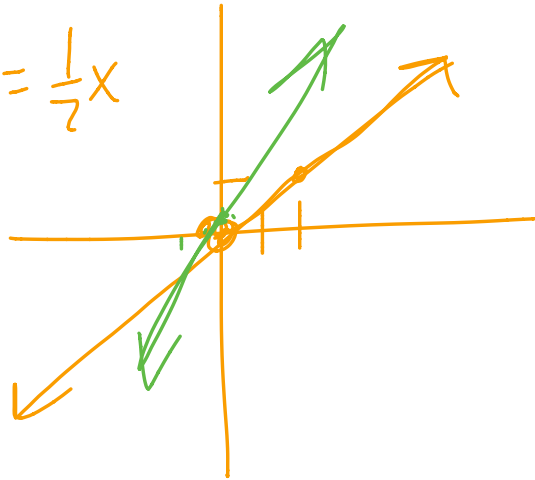


Please go into homework groups. Discuss homework and prepare for bellwork presentations. Remember to keep track of your group's homework completion on your chart.

$$\begin{aligned} \textcircled{31} \quad 2y &= x \rightarrow y = \frac{1}{2}x \\ 8y &= 2x + 1 \\ y &= \frac{2x}{8} + \frac{1}{8} \\ y &= \frac{1}{4}x + \frac{1}{8} \end{aligned}$$



$$8y = 2x + 1$$

$$8y = 1$$

$$y = \frac{1}{8} \rightarrow (0, \frac{1}{8})$$

$$8 \cdot 0 = 2x + 1$$

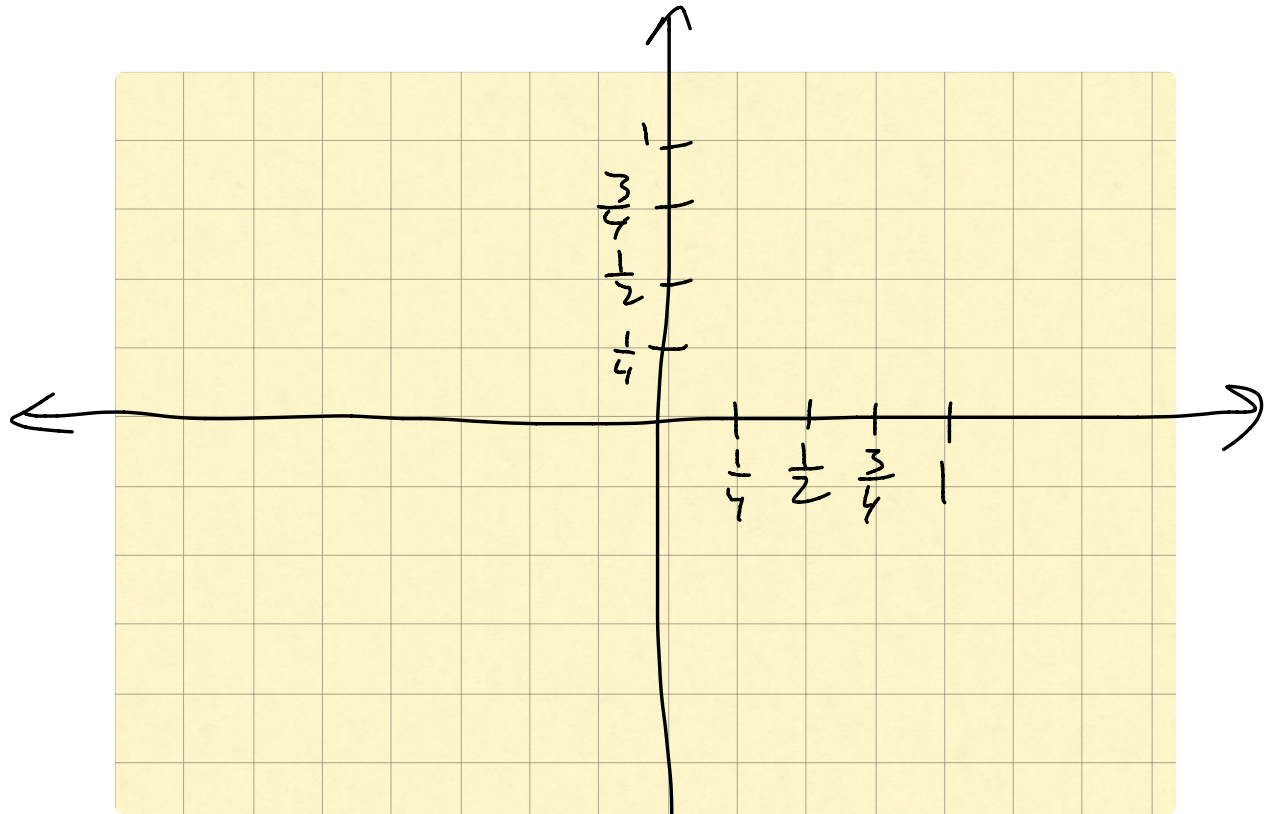
$$0 = 2x + 1$$

$$-1 = 2x$$

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

$$(-\frac{1}{2}, 0)$$

consistent ; independent



$$\textcircled{2} \frac{1}{4}x + 2y = 5$$

$$0.25x + 2y = 5$$

$$\frac{1}{4}x = 5$$

$$x = 20$$

$$(20, 0)$$

$$2y = 5$$

$$y = 2.5$$

$$(0, 2.5)$$

$$2x - y = 6$$

$$2x = 6$$

$$x = 3$$

$$(3, 0)$$

$$-y = 6$$

$$y = -6$$

$$(0, -6)$$

$$(4, 2)$$

\$52/day 23¢/mile

\$80/day

let $x = \# \text{ miles driven}$

$y = \text{cost}$

$$y = 80$$

$$y = 52 + 0.23x$$

10-7: How do I solve a system of equations by substitution and elimination?

$$2x - y = 7$$

$$3x + y = 8$$



$$5x = 15$$

$$x = 3$$

Plug back in to
Either EQN.

$$3 \cdot 3 + y = 8$$

$$9 + y = 8$$

$$y = -1$$

$$(3, -1)$$

Solve

$$2 \cdot 3 - y = 7$$

$$6 - y = 7$$

$$-6 \quad -6$$

$$-y = 1$$

$$y = -1$$

Elimination \rightarrow Make ^{x or y} coefficients opposites

$$\begin{array}{r} 3x - 2y = 2 \\ -1(3x + 4y = 50) \end{array}$$

rewrite

add

$$\left\{ \begin{array}{r} -3x - 4y = -50 \\ 3x - 2y = 2 \end{array} \right.$$

$$\begin{array}{r} -6y = -48 \\ y = 8 \end{array}$$

Plug back in to find x.

$$3x + 4y = 50$$

$$3x + 4(8) = 50$$

$$3x + 32 = 50$$

$$3x = 18$$

$$x = 6$$

$$(6, 8)$$

$$\text{Ex. } 2(3x - 2y = 1)$$

$$-3(2x - 3y = 9)$$

$$\begin{array}{l} \text{Add} \left\{ \begin{array}{l} 6x - 4y = 2 \\ -6x + 9y = -27 \end{array} \right. \end{array}$$

$$5y = -25$$

$$y = -5$$

$$2x - 3y = 9$$

$$2x - 3(-5) = 9$$

$$2x + 15 = 9$$

$$2x = -6$$

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

Substitution

$$3x + 4y = -10$$

$$x = 4y + 2$$

$$3(4y + 2) + 4y = -10$$

$$12y + 6 + 4y = -10$$

$$16y + 6 = -10$$

$$\begin{array}{r} 16y + 6 = -10 \\ -6 \quad -6 \\ \hline 16y = -16 \\ \hline y = -1 \end{array}$$

$$3x + 4(-1) = -10$$

$$3x - 4 = -10$$

$$\begin{array}{r} 3x - 4 = -10 \\ +4 \quad +4 \\ \hline 3x = -6 \\ \hline \frac{3x}{3} = \frac{-6}{3} \end{array}$$

$$x = -2$$

$$(-2, -1)$$

$$2(3x - 2y = 4) - y = -2x + 1$$

$$-2(2x - y = 1)$$

$$\begin{array}{r} 3x - 2y = 4 \\ -4x + 2y = -2 \end{array}$$

$$-x = 2$$

$$x = -2 \quad (-2, -5)$$

$$6x - 4y = 8$$

$$-6x + 3y = -3$$

$$-y = 5$$

$$y = -5$$

$$3x - 2y = 4$$

$$2x - y = 1$$

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

$$y = 2x - 1$$

$$(-2, -5)$$

Substitution

$$3x - 2(2x - 1) = 4$$

$$3x - 4x + 2 = 4$$

$$-x = 2$$

$$x = -2$$

$$y = 2(-2) - 1$$

$$y = -5$$

Solve:

$$x - 3y = -12 \quad \leftarrow$$

$$3(2x + y = 11)$$

$$6x + 3y = 33 \quad \leftarrow$$

Subst: $x = 3y - 12$

$$2(3y - 12) + y = 11$$

$$7x = 21$$

$$x = 3$$

$$3 - 3y = -12$$

$$-3y = -15$$

$$y = 5$$

$$(3, 5)$$