Today's Plan:

Learning Target (standard): I will use my knowledge of literal equations to put linear equations in slope-intercept form. I will use the slope-intercept form of a line to create t-charts.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

NAME _____   #29

BELL RINGER $\boxed{Y=2x}$

1.) The variables x and y vary directly. When x = 3, y = 6. Write an equation that relates x and y.

$$Y = mx$$

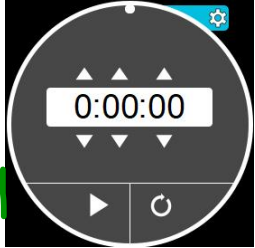2.) Find the slope between (2, 4) and (5, 1).

$$m = \frac{Y_2 - Y_1}{X_2 - X_1} = \frac{1-4}{5-2} = -\frac{3}{3} \qquad m = -1$$

0:00:00
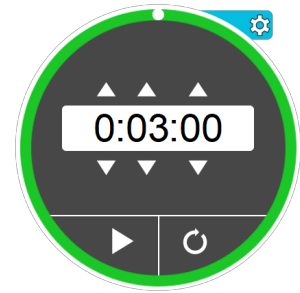
3.) Evaluate 5 + 4 + (−7).

$$5 + 4 - 7$$

$$9 - 7$$

$$\boxed{2}$$

Write down the following steps. Explain whether each step is correct or not. If it is not correct, explain how to fix the step.

① $3x + 4y = 12$

$-3x \qquad\qquad -3x$

② $\dfrac{4y}{4} = \dfrac{12}{4} - \dfrac{3x}{4}$

③ $y = 3 - \dfrac{3x}{4}$

0:03:00

Solve for *y*.

$$-3x + 4y = 12$$

$+3x \qquad\qquad +3x$

$$\dfrac{4y}{4} = \dfrac{3x}{4} + \dfrac{12}{4}$$

$$y = \dfrac{3}{4}x + 3$$

Solve for *m*.

$$a \left[p = \frac{m-n}{a} \right]$$

$$ap = \underline{m} - n$$
$$\quad +n \qquad +n$$

$$ap + n = m$$

$$m = ap + n$$

Solve for *y*.

$$2x + 5y = -10$$
$$-2x \qquad\qquad -2x$$

$$\frac{5y}{5} = \frac{-2x}{5} - \frac{10}{5}$$

$$y = -\frac{2}{5}x - 2$$

Solve for *m*.

$$bn \left[\frac{m}{n} + 3 = \frac{a}{b} \right]$$

$$bm + 3bn = an$$
$$\quad -3bn \quad\quad -3bn$$

$$\frac{bm}{b} = \frac{an}{b} - \frac{3bn}{b}$$

$$m = \frac{an}{b} - 3n$$

Solve for *x*.

$$2 \left[\frac{1}{2}x + \frac{1}{2}y = 4 \right]$$

$$x + y = 8$$
$$-x \quad\quad -x$$

$$y = -x + 8$$

Solve for *y*.

$$-3x - 6y = 18$$
$$+3x \qquad +3x$$

$$\frac{-6y}{-6} = \frac{3x}{-6} + \frac{18}{-6}$$

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

Complete the chart.

$$x - 5y = 15$$
$$-x \qquad\quad -x$$

$$\frac{-5y}{-5} = \frac{-x}{-5} + \frac{15}{-5}$$

$$\boxed{y = \tfrac{1}{5}x - 3}$$

x	y
5	-2
25	2
-10	-5
15	0

$$y = \tfrac{1}{5}(5) - 3$$
$$y = 1 - 3$$
$$y = -2$$

$$y = \tfrac{1}{5}(25) - 3$$
$$y = 5 - 3$$
$$y = 2$$

$$y = \tfrac{1}{5}(-10) - 3$$
$$y = -2 - 3$$
$$y = -5$$

$$y = \tfrac{1}{5}(15) - 3$$
$$y = 3 - 3$$
$$y = 0$$

Linear Equations:

Standard Form:

$$Ax + By = C$$

* A must be positive *

Slope-Intercept Form:

$$y = mx + b$$

Creating *t*-charts:

- put the equation into $y = mx + b$ form
- create a *t*-chart with three x values
    * must be in numerical order *
    - one negative value * use the negative denominator of the slope *
    - zero
    - one positive value * use the positive denominator of the slope *

- find the y values using the x values you chose

    - show work to support these

$$4x - 3y = -12$$
$$-4x \qquad -4x$$

$$\frac{-3y}{-3} = \frac{-4x}{-3} - \frac{12}{-3}$$

$$y = \frac{4}{③}x + 4$$

X	Y
-3	0
0	4
3	8

$$y = \frac{4}{3}(-3) + 4$$

$$y = \frac{4}{3}(0) + 4$$

$$y = \frac{4}{3}(3) + 4$$

Create a *t*-chart.

$$6x + 3y = 21$$

$$3y = -6x + 21$$

$$y = -2x + 7$$

x	y
-1	9
0	7
1	5

$$y = -2(-1) + 7$$
$$y = -2(0) + 7$$
$$y = -2(1) + 7$$

Create a *t*-chart.

$$-3x + 5y = 15$$

$$5y = 3x + 15$$

$$y = \frac{3}{5}x + 3$$

x	y
-5	0
0	3
5	6

$$y = \frac{3}{5}(-5) + 3$$
$$y = \frac{3}{5}(0) + 3$$
$$y = \frac{3}{5}(5) + 3$$

1) $x - y = -5$

$$-y = -x - 5$$
$$\boxed{y = x + 5}$$

x	y
• −1	4
• 0	5
• 1	6

$y = -1 + 5$ $y = 1 + 5$
$y = 0 + 5$

Assignment:

t-Charts Worksheet
#1-12

*Set up t-chart following the rules
from class & show ALL work! *