Today's Plan:

Learning Target (standard): I will graph linear equations using *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 _____   #31

BELL RINGER   0:00:00

1.) Write 5x + 6y = 12 in slope-intercept form.

$$-5x \qquad -5x$$
$$\frac{6y}{6} = \frac{-5x}{6} + \frac{12}{6} \qquad y = \frac{-5}{6}x + 2$$

2.) Evaluate 7x - 3 for x = 7.

$$7(7)-3$$
$$49-3 = 46$$

3.) Solve 3(x - 2) = 5x - 14.

$$3x-6 = 5x-14$$
$$-3x \qquad -3x$$
$$-6 = 2x - 14$$
$$+14 \qquad +14$$
$$\frac{8}{2} = \frac{2x}{2}$$
$$x = 4$$

Graph using a *t*-chart.

$$2)\ 4x - y = 3$$
$$-4x \qquad\qquad -4x$$

$$\frac{-y}{-1} = \frac{-4x}{-1} + \frac{3}{-1}$$

$$\boxed{y = 4x - 3}$$

x	y
-1	-7
0	-3
1	1

$$y = 4(-1) - 3$$

$$y = 4(1) - 3$$
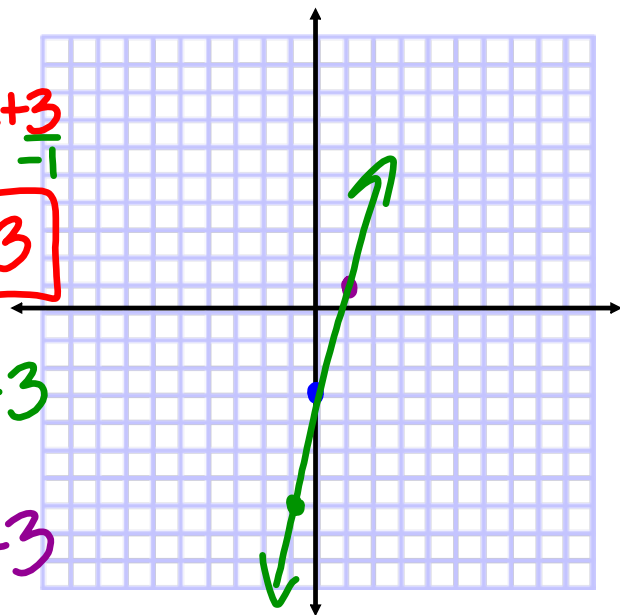
Graph using a *t*-chart.

$$10)\ 3x - 2y = 10$$
$$-3x \qquad\qquad -3x$$

$$\frac{-2y}{-2} = \frac{-3x}{-2} + \frac{10}{-2}$$

$$\boxed{y = \frac{3}{2}x - 5}$$

x	y
-2	-8
0	-5
2	-2

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

$$y = \frac{3}{2}(2) - 5$$
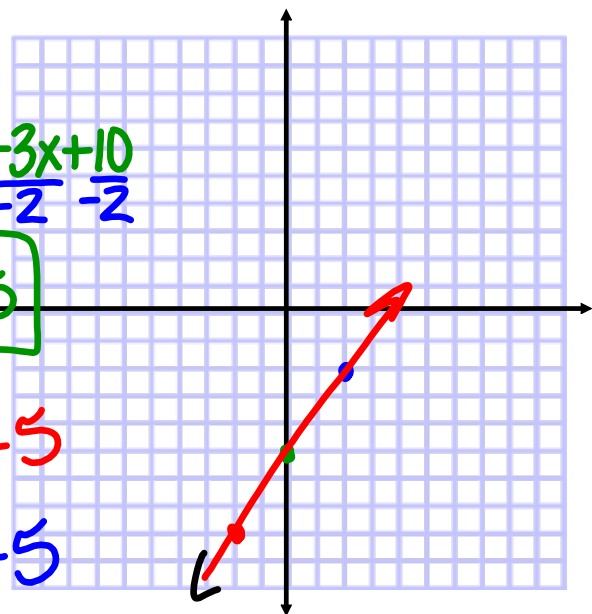
Equations in two Variables: "Linear Equations"

- the graph of a linear equation always results in the graph of a line

  - oblique line $Ax + By = C$ "standard form"

  - oblique line $y = mx + b$ "slope-intercept form"

  - horizontal line $y = \#$ $y = -3$ $y = 5$ ⟷

  - vertical line $x = \#$ $x = 2$ $x = 0$ ↕

Graph using a t-chart.

$$x - y = 1$$
$$-x \qquad -x$$

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

$$\boxed{y = x - 1}$$

x	y
-1	-2
0	-1
1	0

$$y = -1 - 1$$
$$y = 1 - 1$$
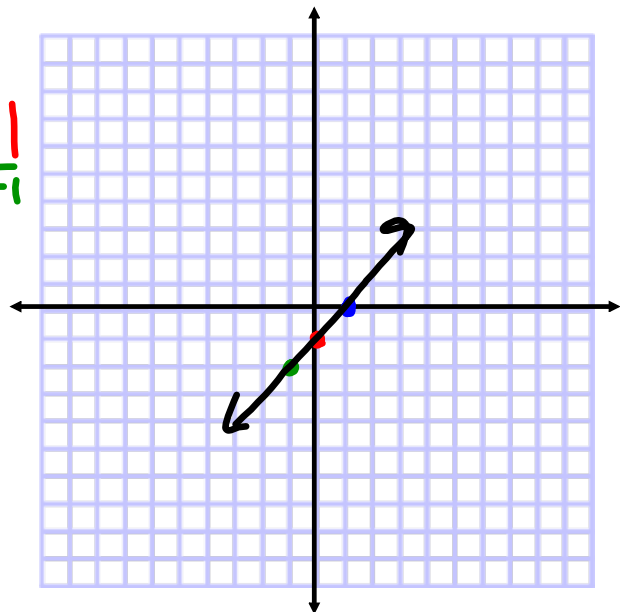
Graph using a *t*-chart.

$$4x + 7y = -21$$

-4x   -4x

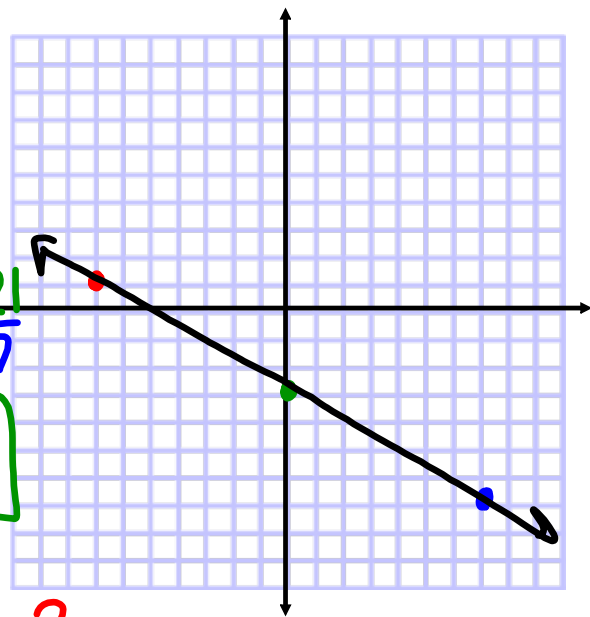| x	y
-7	1
0	-3
7	-7

$$\frac{7y}{7} = \frac{-4x}{7} - \frac{21}{7}$$

$$y = -\frac{4}{7}x - 3$$

$$y = -\frac{4}{7}(-7) - 3$$

$$y = -\frac{4}{7}(7) - 3$$

Graph using a *t*-chart.

$$5x + 3y = -12$$

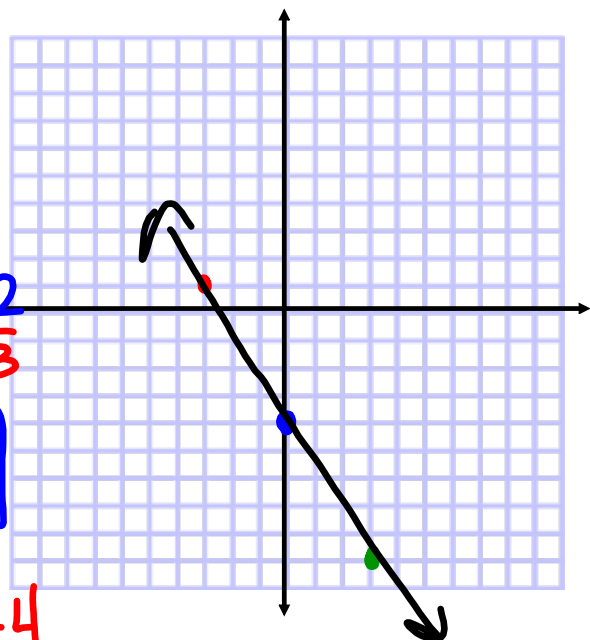-5x   -5x

x	y
-3	1
0	-4
3	-9

$$\frac{3y}{3} = \frac{-5x}{3} - \frac{12}{3}$$

$$y = -\frac{5}{3}x - 4$$

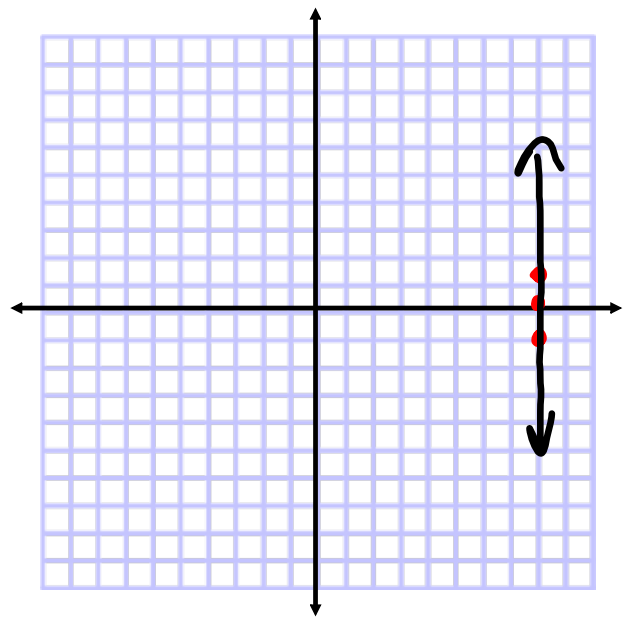$$y = -\frac{5}{3}(-3) - 4$$

$$y = -\frac{5}{3}(3) - 4$$

Graph using a *t*-chart.

$$2x - 6 = 10 \qquad 2x = 16$$

$$\boxed{x = 8}$$

x	y
8	−1
8	0
8	1

Describe the process for setting up a t-chart
and using it to graph the given linear equation.

$$2x - 3y = -6 \qquad \text{standard form}$$
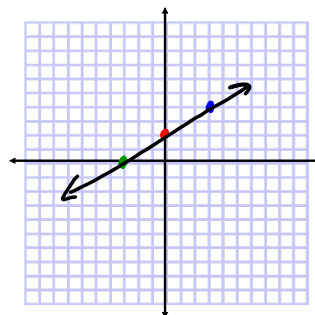$$-2x \qquad -2x \qquad \downarrow$$

$$\frac{-3y}{-3} = \frac{-2x}{-3} - \frac{6}{-3} \qquad \text{slope-intercept form}$$

$$\boxed{y = \frac{2}{3}x + 2}$$

x	y
-3	0
0	2
3	4

$$y = \frac{2}{3}(-3) + 2$$

$$y = \frac{2}{3}(3) + 2$$

Graph using a *t*-chart.

$$2x + 3y = 21$$
-2x　　　-2x

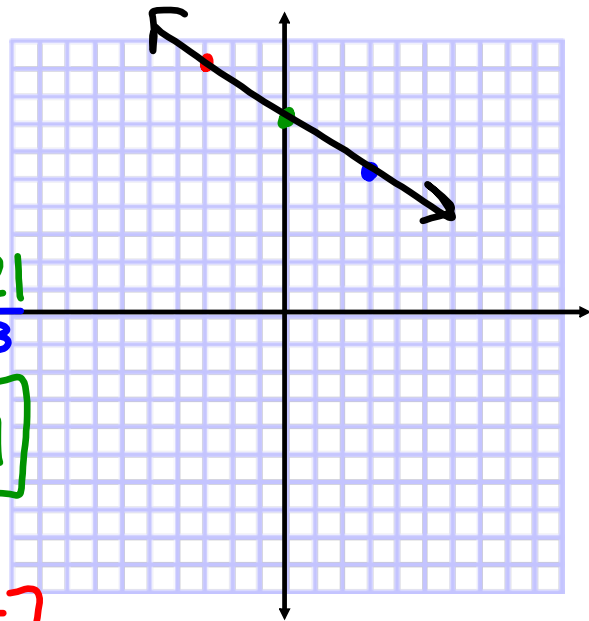| x	y
-3	9
0	7
3	5

$$\frac{3y}{3} = \frac{-2x}{3} + \frac{21}{3}$$

$$y = -\frac{2}{3}x + 7$$

$$y = -\frac{2}{3}(-3) + 7$$

$$y = -\frac{2}{3}(3) + 7$$

Graph using a *t*-chart.

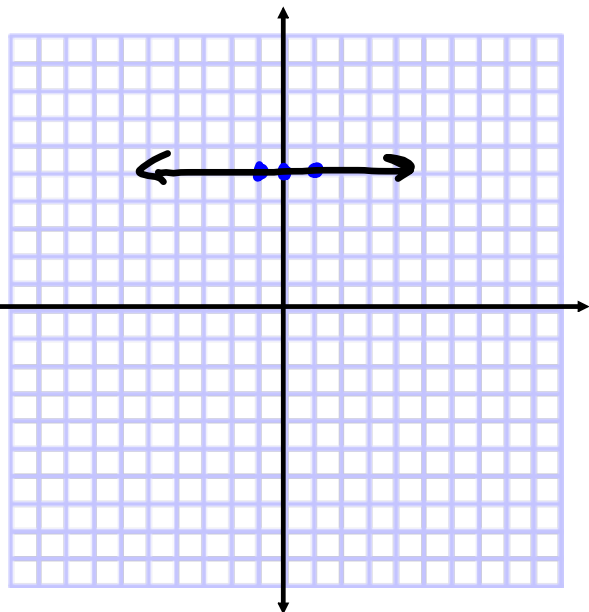$$-2y + 4 = -6$$
　　-4　-4

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

$$y = 5$$

x	y
-1	5
0	5
1	5

Graph using a *t*-chart.

$$5x - 6y = 18$$

-5x   - 5x

x	y
-6	-8
0	-3
6	2

$$\frac{-6y}{-6} = \frac{-5x}{-6} + \frac{18}{-6}$$

$$\boxed{y = \frac{5}{6}x - 3}$$

$$y = \frac{5}{6}(-6) - 3$$

$$y = \frac{5}{6}(6) - 3$$
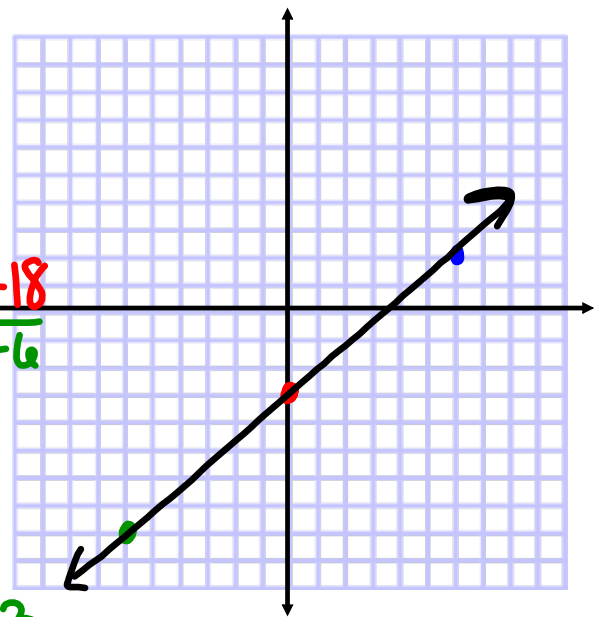
Assignment:

Graphing with *t*-Charts 2 Worksheet #1-10

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