October 17th

Unit 3: Linear Functions

Lesson: 3.2: The equation of a line.

00:00 00

Get Ready: Fill out your mastery ticket for the Unit 2 test

	High Mastery +2 MP	Low Mastery +1 MP	NO Mastery NM
SEQ	24-30	20-23	0-19
Modeling	17-21	14-16	0-13
Propeties	10-12	7-9	0-6
Literal Eq	8-10	6-7	0-5

HW 3.1 Review

$$M = \frac{y_1 - y_2}{x_1 - x_2} \quad \text{OR} \quad \frac{y_2 - y_1}{x_2 - x_1}$$

$(2, 3) \stackrel{.}{.} (4, 7)$

$(4, 7) \stackrel{.}{.} (2, 3)$

Nov 19-10:23 PM

** Always RUN to the RIGHT

** Always RUN FIRST

* RISE UP = +

** Rise Down = -

You are given the slope of each line and one point on it. Draw in the line.

m = 1/3

m = -2

m =
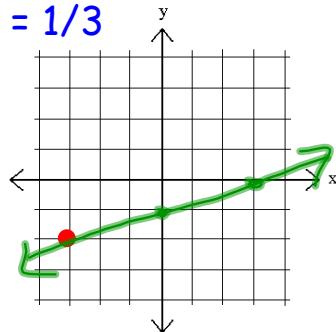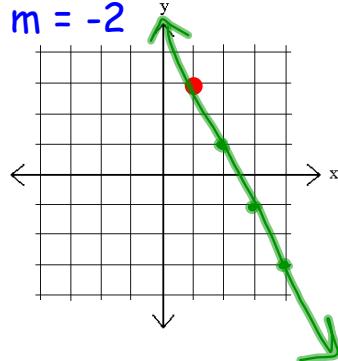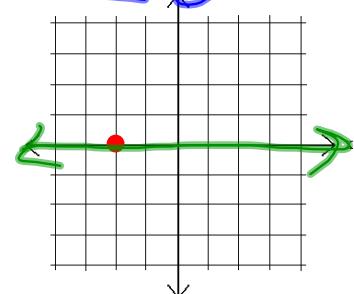
m = *Slope*   b= *y-intercept*

What to do with these?

SLOPE INTERCEPT FORM

$$y = mx + b$$

y-int = constant

Slope = coefficient of x

y-coordinate of the point on the line

x-coordinate of a point on the line

Dec 11-8:26 PM

How to graph a line using
Slope Intercept Form :

1. Identify the slope (m) and the y-intercept (b).

2. Graph the y-intercept.

3. Use the slope to find the rise and the run to plot an additional point.

4. Connect the dots, make sure the line extends off the grid and has arrows!

5. LABEL YOUR LINE!

Nov 19-10:23 PM

$$y = -2x + 1$$

$$m = \frac{-2}{1} \quad b = 1$$

x	y	
-5	-2(-5)+1	(11)
-1	3	
0	1	
1	-1	
5	-2(5)+1	(-9)

y=-2x+1
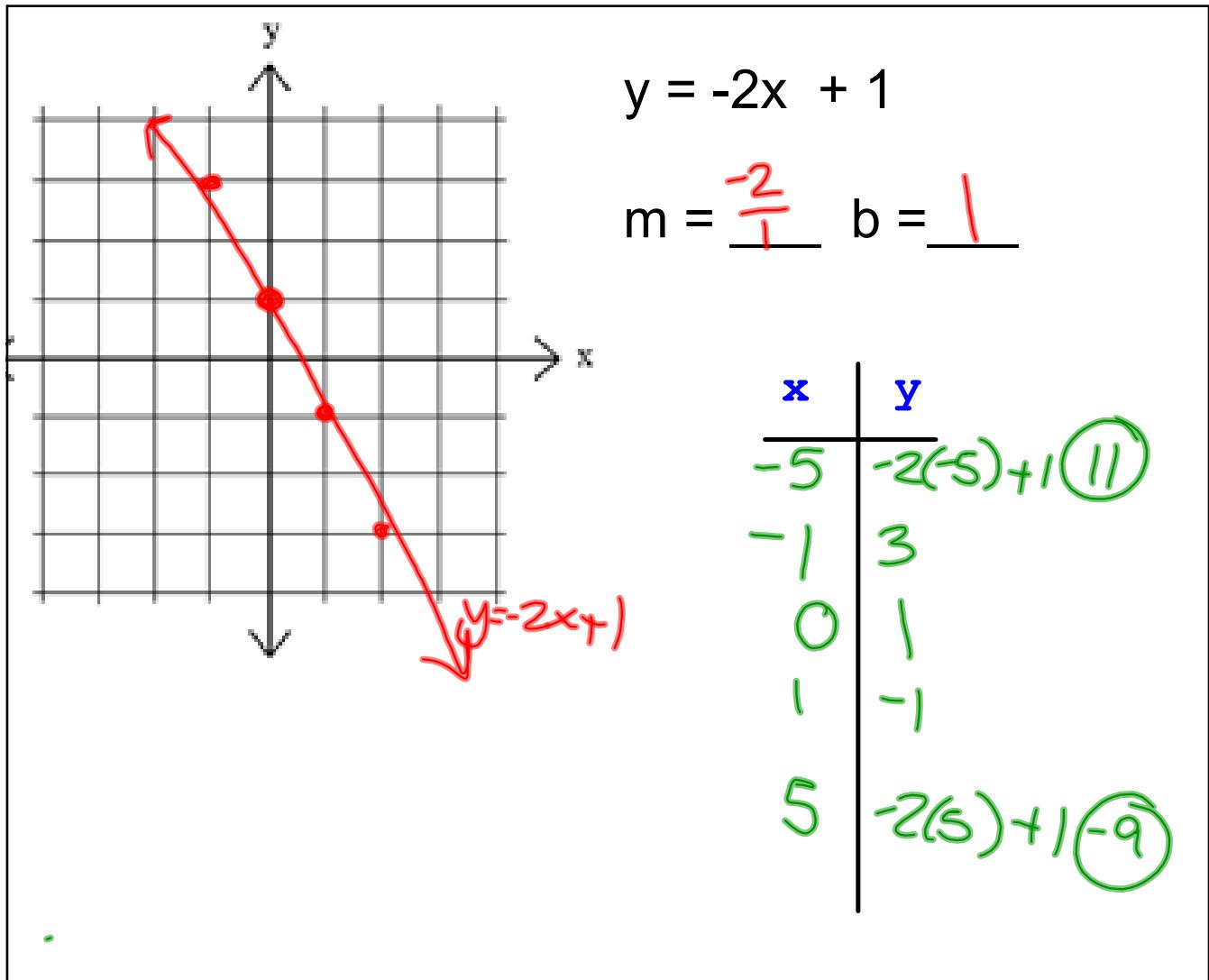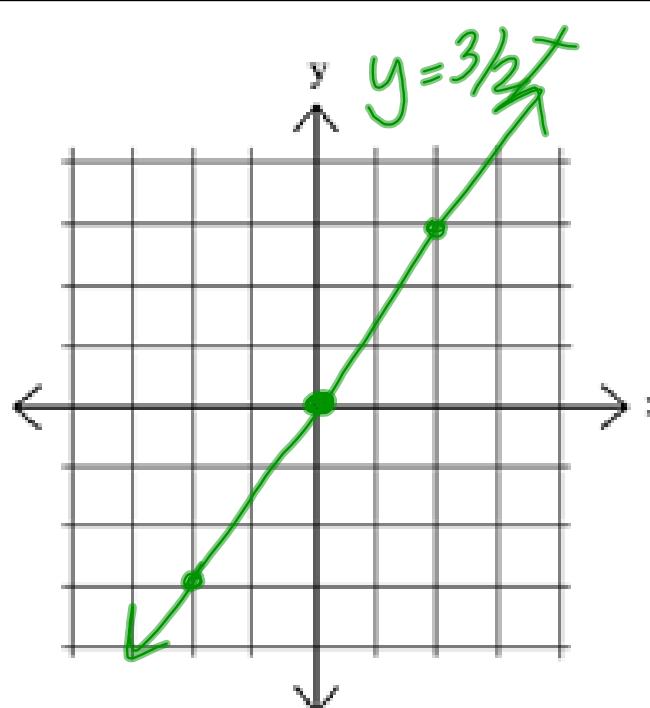
$y = 3/2x$

$$y = \frac{3}{2}x + 0$$

$$m = \frac{3}{2} \quad b = 0$$

x	y
-6	-9
-2	-3
0	0
2	3
4	6

$\frac{3}{2}(4) = \frac{12}{2}$

y = x - 2

m = $\dfrac{1}{1}$ b = -2

x	y

y=x-2
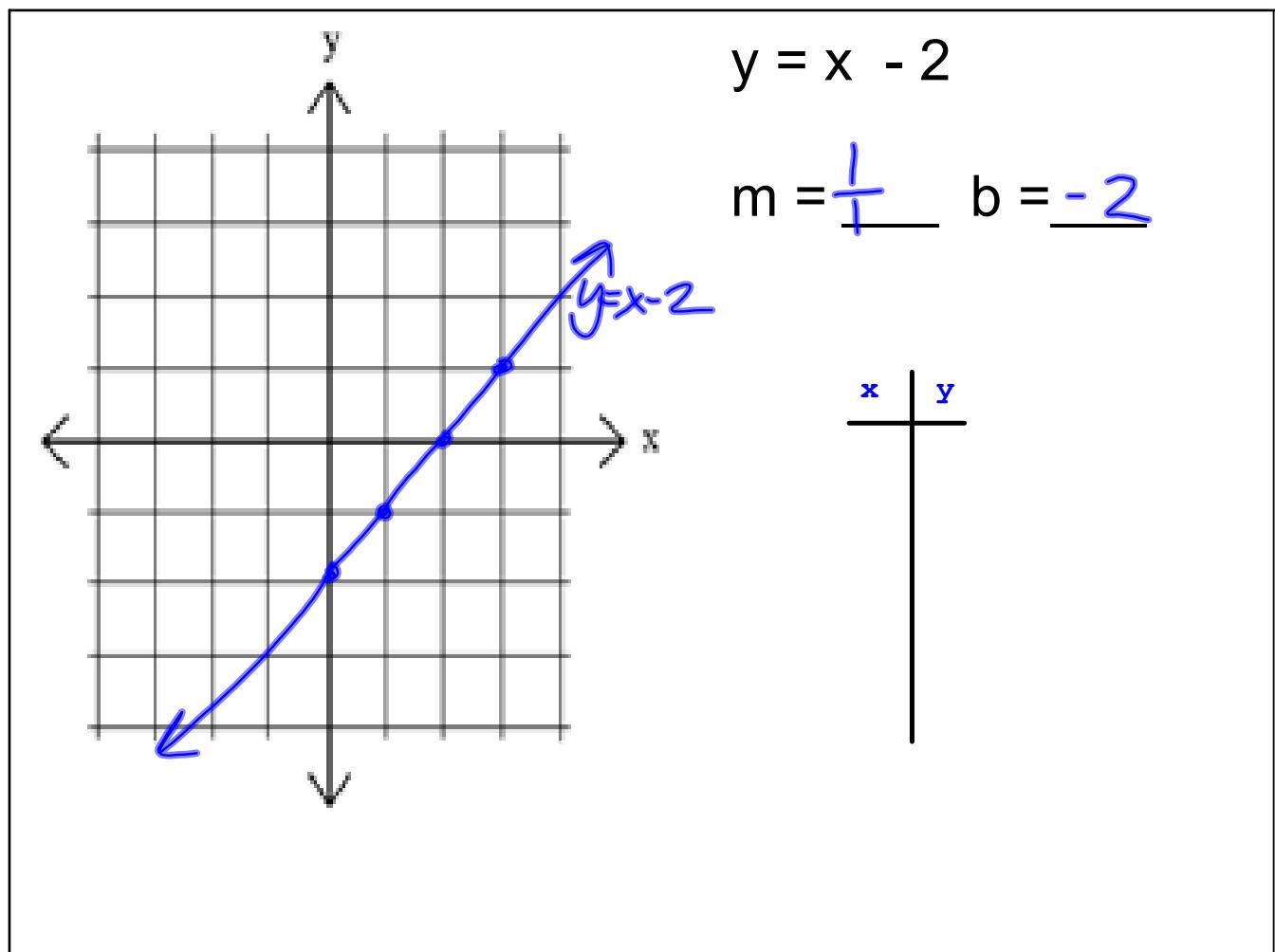
FUNCTION NOTATION

These are the Same

y = 3x - 2   **f(x) = 3x - 2**

$2 \div 3$

$\dfrac{2}{3}$

f of x

$g(x) = 3x - 2$

$t(x) = 3x - 3$

Oct 15-2:17 PM
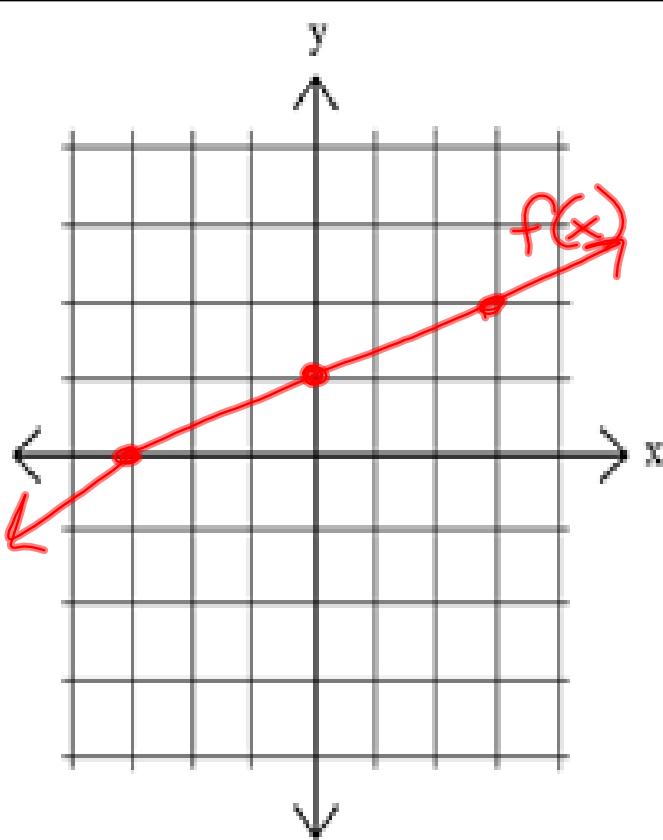
$$f(x) = \frac{1}{3}x + 1$$

$$m = \frac{1}{3} \qquad b = 1$$

x	f(x)
-3	0
0	1
3	2
5	8/3

$$f(5) = \frac{1}{3}(5) + 1$$

$$= \frac{5}{3} + 1$$

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

$$f(5) = \frac{8}{3}$$

Things to remember when graphing lines!

1. start by plotting the y-intercept (that's the b!)

2. If there is no y-intercept, then b= 0!

3. Next, use the slope to plot one more point!

4. Remember- rise up for positive slope and down for negative slope.
Always run to the right!

5. Connect your points and add arrows to the line!

6. LABEL YOUR LINE!

Dec 11-9:12 PM

Finished early? SOLVE THESE:

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1) $2(2 + 8b) = -8(-2b + 5) + 7$

2) $-(m - 3) = -\dfrac{5}{2}$

3) $r - \dfrac{10}{3} - \dfrac{7}{2}r = -\dfrac{16}{9} - \dfrac{5}{2}r + \dfrac{2}{3}r$

4) $-\left(\dfrac{3}{2}x + 1\right) + \dfrac{1}{2} = -\dfrac{1}{2}x - 1$

1) $2(2 + 8b) = -8(-2b + 5) + 7$
   No solution.

2) $-(m - 3) = -\dfrac{5}{2}$ $\left\{\dfrac{11}{2}\right\}$

3) $r - \dfrac{10}{3} - \dfrac{7}{2}r = -\dfrac{16}{9} - \dfrac{5}{2}r + \dfrac{2}{3}r$ $\left\{-\dfrac{7}{3}\right\}$

4) $-\left(\dfrac{3}{2}x + 1\right) + \dfrac{1}{2} = -\dfrac{1}{2}x - 1$ $\left\{\dfrac{1}{2}\right\}$

Oct 15-12:47 PM

Homework: Watch Video 3.2
+ Do HW 3.2

Next class: Quiz Monday