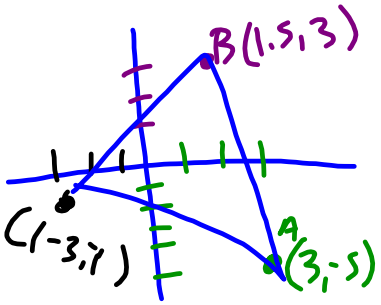
Warm Up *WEEK 9*

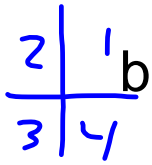
1. Sketch a coordinate plane, then plot and label the ordered pairs.

A(3, -5), B(1.5, 3), C(-3, -1)



2. Determine what quadrant each ordered pair is in.

a) (5, -2) IV



b) (-2, 7) II

c) (-80, -107) III

Homework Questions?

On the top of your paper (by your name) rate yourself for this section:

4 - I can summarize the concepts and explain it to others

3 - I can apply the concept to answer questions correctly

2 - I can apply the concepts but with some mistakes

1 - I need help and know how to apply the concept

0 - I can't apply the concept, even with help

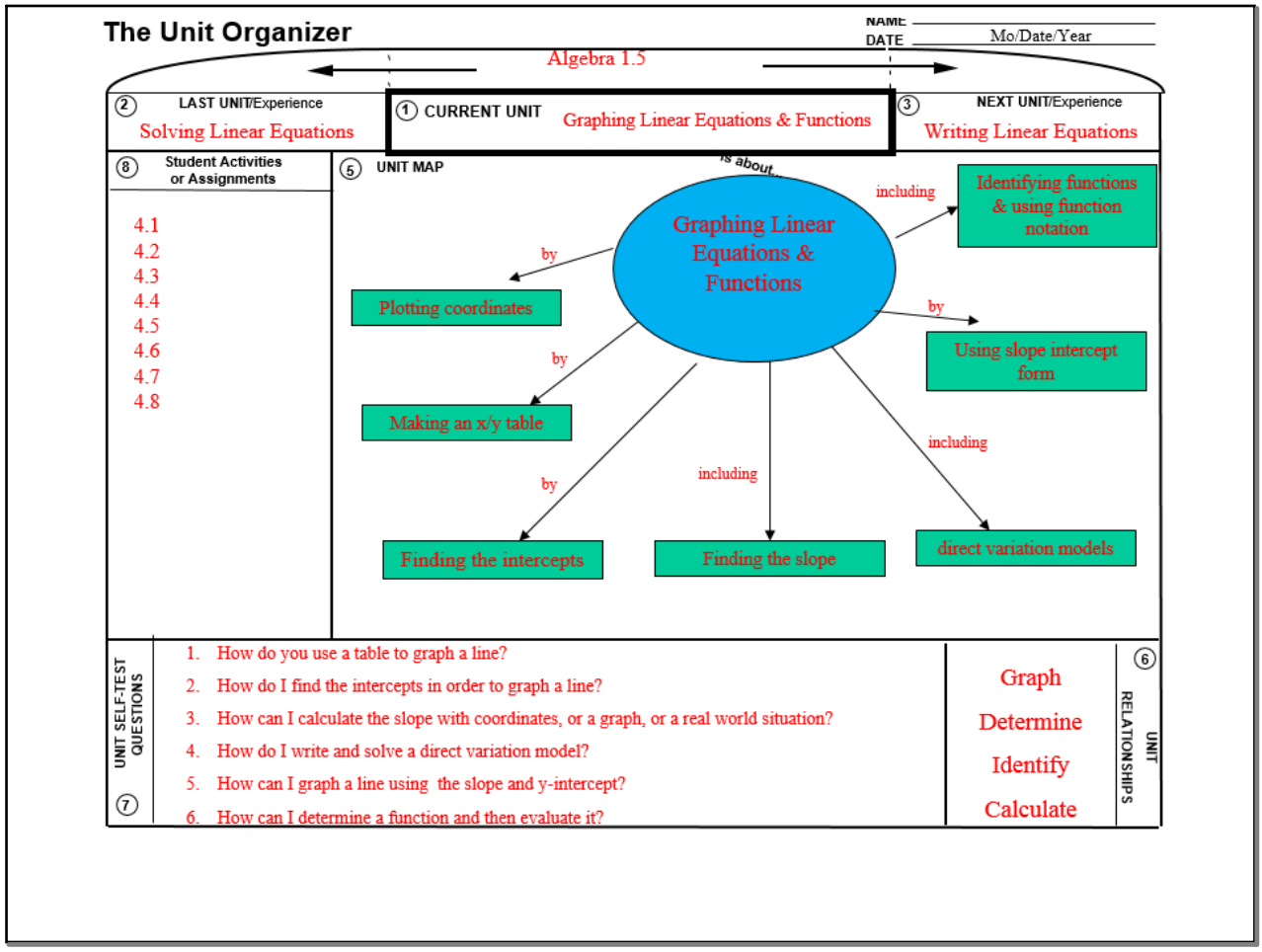
Rating of 0-2 is a warning signal to me that you need help

4.2 Graphing Linear Equations

Goals:

- Graph a linear equation using a table of values.

EQ: What does **function form** mean?



Vocabulary

Linear equation: makes a straight line

Solution of an equation: what makes it true

Function form: $y =$ (solve for y)

Graph of an equation:

set of all points that are solutions

Example 1: Check Solutions of Linear Equations

Determine whether the ordered pair is a solution of $2x + 3y = -6$

a. (3, -4)

x y

$2(3)+3(-4)=-6$

$6-12=-6$

$-6=-6$ ✓

Yes

b. (-4, 1)

x y

$2(-4)+3(1)=-6$

$-8+3=-6$

$-5 \neq -6$

No

Try It

Determine whether the ordered pair is a solution of $-2x + y = 3$.

1. (0, 3)

x y

$-2(0)+3=3$

$3=3$ ✓

Yes

2. (1, 1)

$-2\cdot1+1=3$

$-2+1=-1$

$-1 \neq 3$

No False

3. (1, 5)

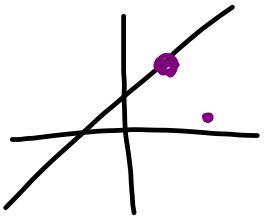
x y

$-2(1)+5=3$

$-2+5=3$

$3=3$ ✓

Yes



Example 2: Find Solutions of Linear Equations

Find three ordered pairs that are solutions of -5x + y = -2

(x, y)

$-5x + y = -2$

$+5x \quad +5x$

$y = -2 + 5x$

x	y
-1	-7
0	-2
1	3

(-1, -7) (0, -2) (1, 3)

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

$-2 + 5(0) = -2$

$-2 + 5(1) = 3$

SUMMARY

Graphing a Linear Equation

y=

STEP 1 ***Rewrite*** the equation in function form, if necessary.

STEP 2 ***Choose*** a few values of *x* and make a table of values. -1, 0, 1

STEP 3 ***Plot*** the points from the table of values. A line through these points is the graph of the equation.

Example 3: Graph a Linear Equation

Use a table of values to graph the equation x + 4y = 4.

$x + 4y = 4$

$-x \quad -x$

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

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

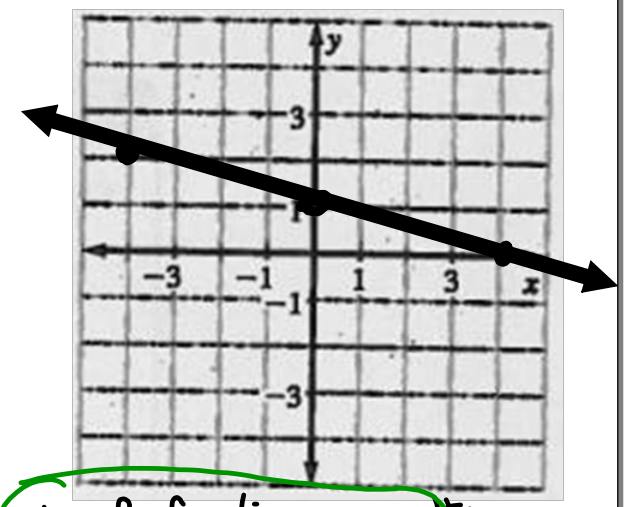
x	y
-4	2
0	1
4	0

(-4, 2)
(0, 1)
(4, 0)

$1 - \frac{1}{4}(-4) = 1 + 1$

$1 - \frac{1}{4}(0)$

$1 - \frac{1}{4}(4) = 1 - 1$



*If fraction, Choose Bottom # for x-values

Try It Complete the following exercise.

4. Use a table of values to graph the equation x - 2y = 1

$x - 2y = 1$

$-x \quad -x$

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

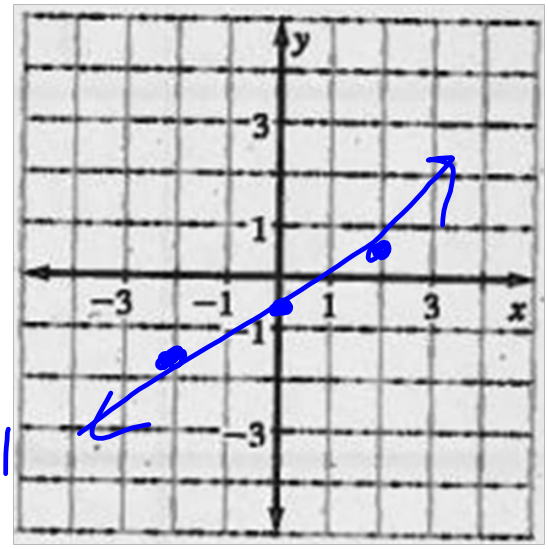
$y = -\frac{1}{2} + \frac{1}{2}x$

x	y
-2	-1.5
0	-1/2
2	1/2

$-\frac{1}{2} + \frac{1}{2}(-2) = -\frac{1}{2} - 1$

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

$-\frac{1}{2} + \frac{1}{2}(2) = -\frac{1}{2} + 1$



Ch.3 Test was out of 65 pts

42 ↓ Needs to Retake

Summary

EQ: What does **function form** mean?

4.2 Homework

4.2 Graphing Linear Equations wkst #1-6