Name: _____ Date: _____ Bell: ____

Graphing Linear Equations in Two Variables.

Warm up
TOP ONLY

Every linear equation can be modeled in at least two ways:
1) As a table where all the pairs of (x, y) coordinates satisfy the equation (make it true.)
2) Or as a graph:
(The data from the table is put on the coordinate grid and a line is drawn through the points.)

Write the function rule (the linear equation) above the matching data table.

$y = x$ $y = -5x + 13$ $y = 2x$ $y = x - 1$ $y = -1.5x$ $y = -0.5x - 0.5$

x	y
-2	3
0	0
2	-3

x	y
2	3
3	-
	2
4	-

x	y
-	-
3	3
1	1
4	4

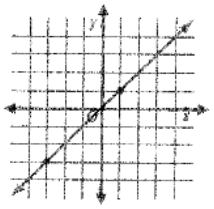
x	y
-	1
3	
1	-
	1

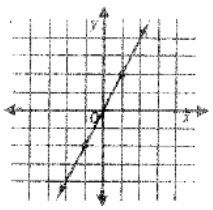
x	y
-	-
1	2
0	0
1	2

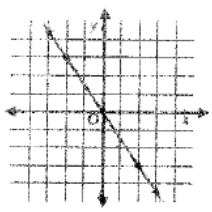
x	y
-	-
2	3
0	-
	1

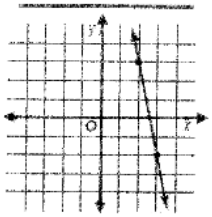
Write the function rule (the linear equation) above the matching graph.

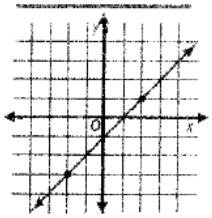
$y = x$ $y = -5x + 13$ $y = 2x$ $y = x - 1$ $y = -1.5x$ $y = -0.5x - 0.5$

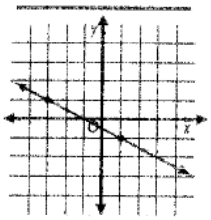
1. 

2. 

3. 

4. 





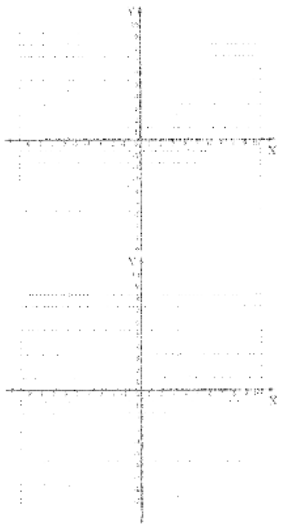
FunctionTables_matching-graphs-tables.docx

SOL 7.10b Practice Problems

Graph a line given the following information understanding there is a proportional relationship.

1. $(slope)\ m = \frac{1}{3}$

   Ordered Pair = $(3, 1)$

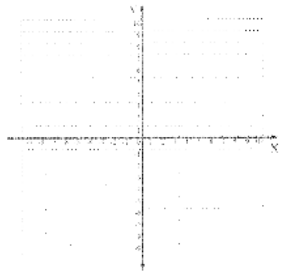


2. $(slope)\ m = 4$

   Ordered Pair = $(2, 8)$

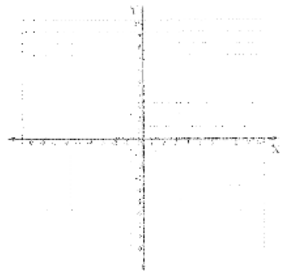
3. $(slope)\ m = 2$

   Ordered Pair = $(2, 4)$



4. $(slope)\ m = \frac{5}{3}$

   Ordered Pair = $(6, 10)$



Identify the Slope and y-Intercept

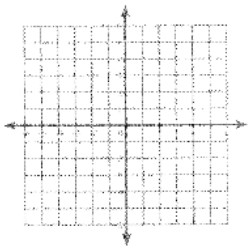
We can use this information to graph a function!

m = slope, b = y-intercept	Slope = $\frac{rise}{run}$	y-intercept = where it crosses the y-axis!

1. $y = \frac{2}{3}x + 2$

$m =$ _____

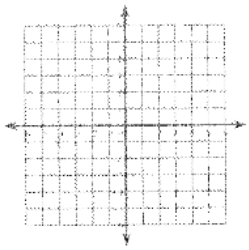
$b =$ _____



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

$m =$ _____

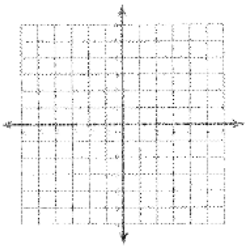
$b =$ _____



3. $y = 2x - 3$

$m =$ _____

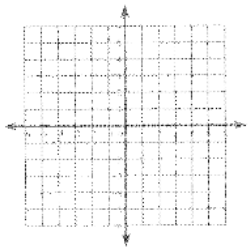
$b =$ _____



4. $y = -2x + 4$

$m =$ _____

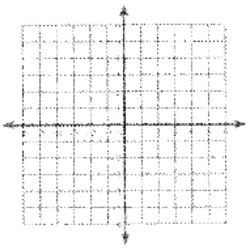
$b =$ _____



5. $y = -4x + 1$

$m =$ _____

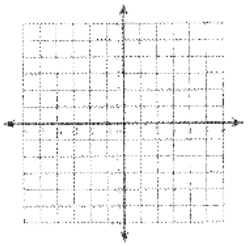
$b =$ _____



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

$m =$ _____

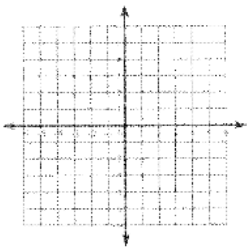
$b =$ _____



7. $y = x + 2$

$m =$ _____

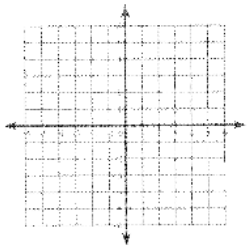
$b =$ _____



8. $y = \frac{1}{2}x$

$m =$ _____

$b =$ _____



Name: _____ **Unit 3:** Functions & Linear Equations

Date: _____ **Bell:** _____ Linear Equations Practice

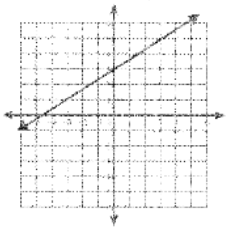
Directions: Given the graph of the line, determine the slope (m), the y-intercept (b), and write the equation in slope intercept form. **(Hint: draw dots on the lines!)**

1.

$m =$ _____

$b =$ _____

$y =$ _____

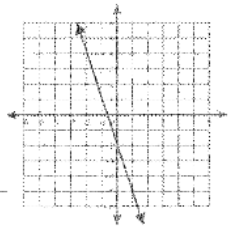


2.

$m =$ _____

$b =$ _____

$y =$ _____

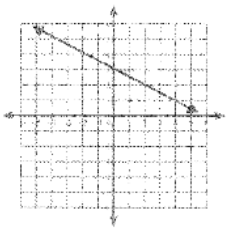


3.

$m =$ _____

$b =$ _____

$y =$ _____

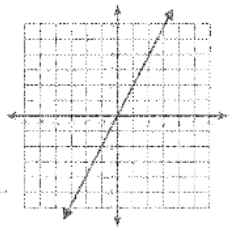


4.

$m =$ _____

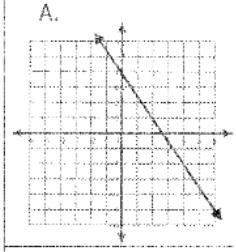
$b =$ _____

$y =$ _____

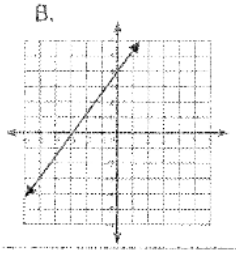


5. Given the equation, $y = \frac{3}{2}x + 4$, find the graph.

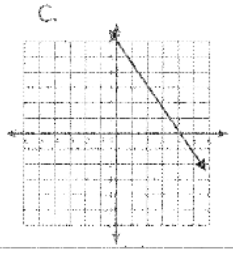
A.



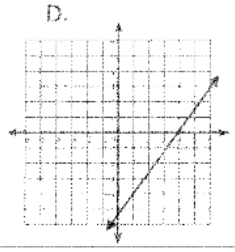
B.



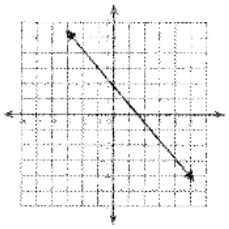
C.



D.



6. Given the graph, find the equation.



A. $y = \frac{5}{4}x - 2$

B. $y = -\frac{5}{4}x + 2$

C. $y = \frac{5}{4}x + 2$

D. $y = -\frac{5}{4}x - 2$

7. Given the equation, $y = \frac{1}{2}x + 3$, find the table.

A.

x	y
-2	2
0	3
2	4

B.

x	y
-2	2
0	3
2	6

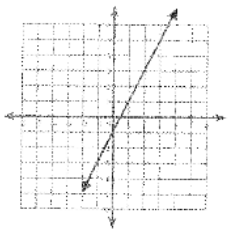
C.

x	y
-2	4
2	5
6	6

D.

x	y
0	3
2	4
4	6

8. Given the graph, find the table.



A.

x	y
1	1
2	2
3	3

B.

x	y
1	1
2	3
3	4

C.

x	y
-1	-3
0	-1
1	1

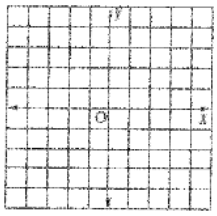
D.

x	y
-1	-3
1	1
2	2

Complete the following function tables, than graph the function.

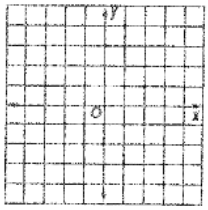
9. $y = -\frac{2}{3}x + 2$

x	y
-3	
0	
3	
6	



10. $y = 3 - x$

x	y
-2	
-1	
0	
1	



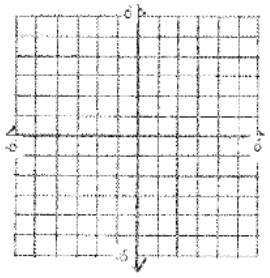
Methods of Graphing Functions (A)

Graph the function using a function table or by using the slope intercept. Compare your answers to your neighbor, did you get the same line?

Method 1: Function Table	Method 2: Slope-intercept form

1. $y = \frac{1}{3}x + 3$

x	y
-3	
0	
3	
6	



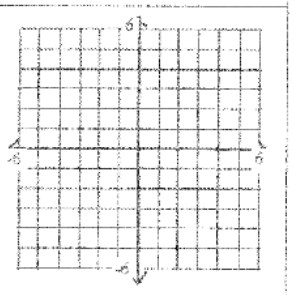
Compare you answer to your neighbor, do you have the same line? Which method was easier?

Compare you answer to your neighbor, do you have the same line? Which method was easier?

2. $y = -2x + 5$

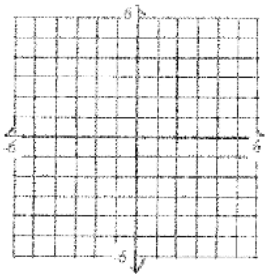
$m =$ _____

$b =$ _____



3. $y = 3x - 2$

x	y
-1	
0	
1	
2	



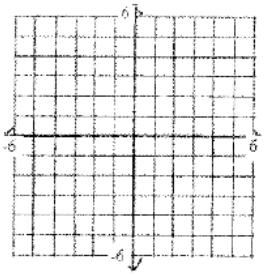
Compare you answer to your neighbor, do you have the same line? Which method was easier?

Compare you answer to your neighbor, do you have the same line? Which method was easier?

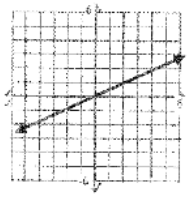
4. $y = -\frac{5}{2}x + 3$

$m =$ _____

$b =$ _____

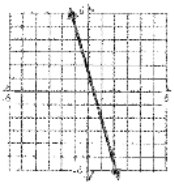


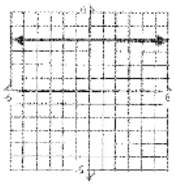
Compare each representation of the lines and answer the questions below.

A. 

B. $y = -2x + 1$

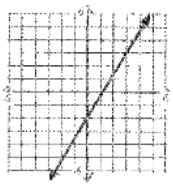
C. $y = 4x - 3$

D. 

E. 

F. $y = \frac{3}{2}x + 2$

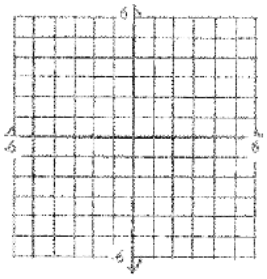
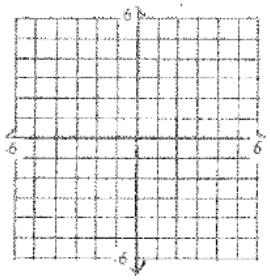
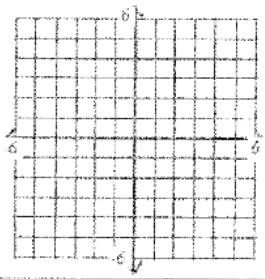
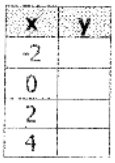
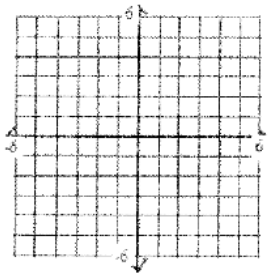
H. $y = -\frac{2}{3}x - 2$

G. 

5. Which line(s) have a negative slope?	**6.** Which line(s) have a slope of zero?
7. Which line(s) have a slope of -3?	**8.** Which line(s) have a y-intercept of -2?
9. Which line(s) pass through the origin?	**10.** Which line(s) have a negative y-interecept?
11. Which line(s) have a slope of $\frac{3}{2}$?	**12.** Which line has a steeper slope, A or C?
13. Which line(s) have a y-intercept of 1?	**14.** Which lines have a positive slope?

Methods of Graphing Functions (B)

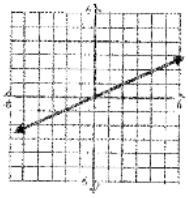
Graph the function using a function table or by using the slope intercept. Compare your answers to your neighbor, did you get the same line?

Method 1: Function Table	Method 2: Slope-intercept form
Compare you answer to your neighbor, do you have the same line? Which method was easier?	**1.** $y = \frac{1}{3}x + 3$ $m =$ _____ $b =$ _____ 
2. $y = -2x + 5$  	Compare you answer to your neighbor, do you have the same line? Which method was easier?
Compare you answer to your neighbor, do you have the same line? Which method was easier?	**3.** $y = 3x - 2$ $m =$ _____ $b =$ _____ 
4. $y = -\frac{5}{2}x + 3$  	Compare you answer to your neighbor, do you have the same line? Which method was easier?

x	y
0	
1	
2	
3	

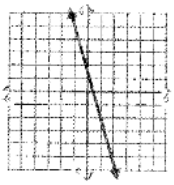
x	y
-2	
0	
2	
4	

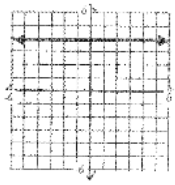
Compare each representation of the lines and answer the questions below.

A. 

B. $y = -2x + 1$

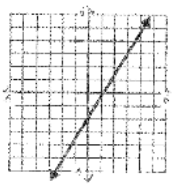
C. $y = 4x - 3$

D. 

E. 

F. $y = \frac{3}{2}x + 2$

H. $y = -\frac{2}{3}x - 2$

G. 

5. Which line(s) have a negative slope?	**6.** Which line(s) have a slope of zero?
7. Which line(s) have a slope of -3?	**8.** Which line(s) have a y-intercept of -2?
9. Which line(s) pass through the origin?	**10.** Which line(s) have a negative y-interecept?
11. Which line(s) have a slope of $\frac{3}{2}$?	**12.** Which line has a steeper slope, A or C?
13. Which line(s) have a y-intercept of 1?	**14.** Which lines have a positive slope?