Tables of Values

GRAPH #1:

Equations:

a) $y = 2x + 4$

x	y
–1	
0	
1	
2	

b) $y = 2x + 2$

x	y
–1	
0	
1	
2	

c) $y = 2x$

x	y
–1	
0	
1	
2	

d) $y = 2x - 4$

x	y
–1	
0	
1	
2	

GRAPH #2:

Equations:

a) $y = -2x + 4$

x	y
–1	
0	
1	
2	

b) $y = -2x + 1$

x	y
–1	
0	
1	
2	

c) $y = -2x - 1$

x	y
–1	
0	
1	
2	

d) $y = -2x - 5$

x	y
–1	
0	
1	
2	

GRAPH #3:

Equations:

a) $y = 4x - 2$

x	y
–1	
0	
1	
2	

b) $y = 2x - 2$

x	y
–1	
0	
1	
2	

c) $y = x - 2$

x	y
–1	
0	
1	
2	

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

x	y
–1	
0	
1	
2	

GRAPH #4:

Equations:

a) $y = -\frac{1}{2}x + 3$

x	y
–1	
0	
1	
2	

b) $y = -x + 3$

x	y
–1	
0	
1	
2	

c) $y = -2x + 3$

x	y
–1	
0	
1	
2	

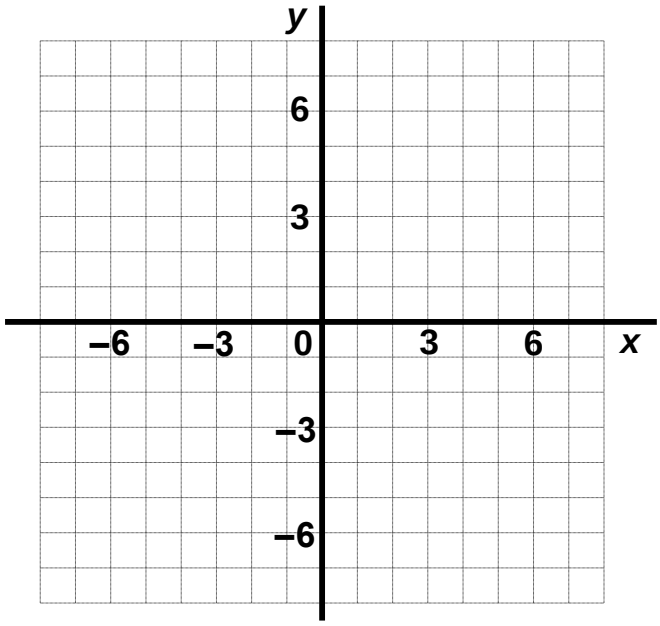
d) $y = -4x + 3$

x	y
–1	
0	
1	
2	

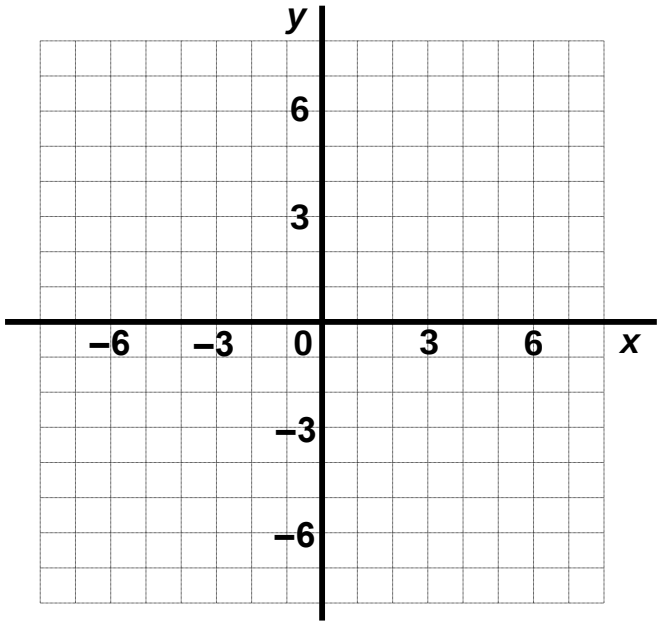
Graphs

1. Complete the Tables of Values for each equation.
2. Plot all 4 points from the Table of Values on the Graphs sheet, draw a line through these 4 points, extending the line edge-to-edge on the graph.
3. Label the line you have just graphed with its letter (***a, b, c,*** or ***d***)

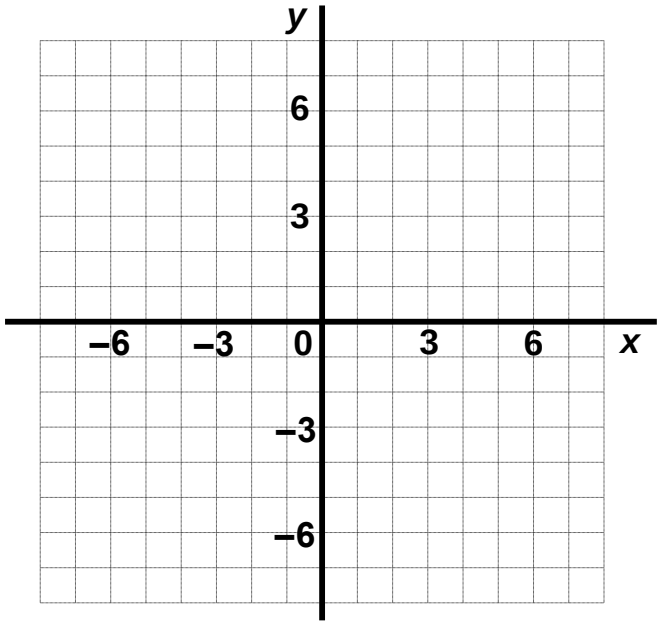
GRAPH #1:



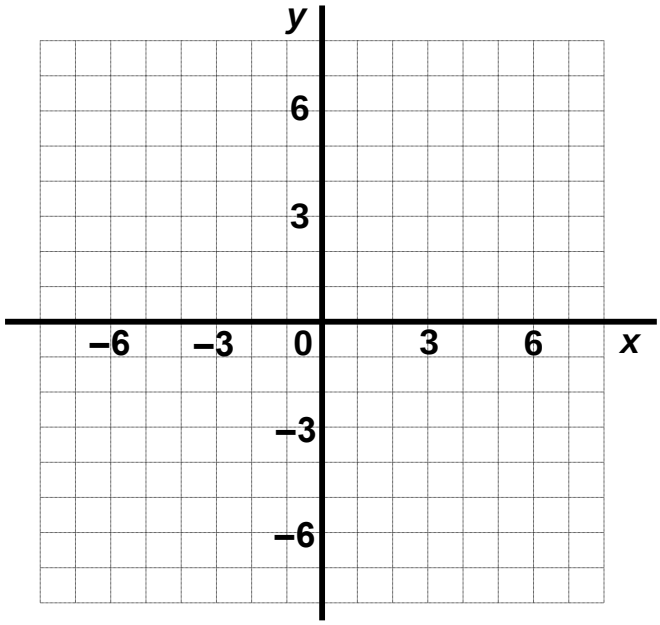
GRAPH #2:



GRAPH #3:



GRAPH #4:



Learning About *m* and *b*

Date:

Each of the equations that were graphed are in the form: $y = mx + b$

4. Fill in the values of **m** and **b** in column #1 and #2.
5. Look at the graphs of each line and fill in columns #3 and #4.

The ***x-intercept*** is defined as the place where a line crosses the *x*-axis.
The ***y-intercept*** is defined as the place where a line crosses the *y*-axis.

6. Find the slope of each of the lines which you have plotted using the $\frac{rise}{run}$ method. It may be helpful to actually sketch a *rise* and a *run* onto your graphs for each of the lines. Record the slopes in column #5.

			COLUMN # :				
			1	**2**	**3**	**4**	**5**
		RELATION	**m**	**b**	***x* - intercept**	***y* - intercept**	**slope**
Graph #1	**a**	$y = 2x + 4$					
	b	$y = 2x + 2$					
	c	$y = 2x$					
	d	$y = 2x - 4$					
Graph #2	**a**	$y = -2x + 4$					
	b	$y = -2x + 1$					
	c	$y = -2x - 1$					
	d	$y = -2x - 5$					
Graph #3	**a**	$y = 4x - 2$					
	b	$y = 2x - 2$					
	c	$y = x - 2$					
	d	$y = \frac{1}{2}x - 2$					
Graph #4	**a**	$y = -\frac{1}{2}x + 3$					
	b	$y = -x + 3$					
	c	$y = -2x + 3$					
	d	$y = -4x + 3$					

Learning About *m* and *b*

Date:

7. Which column of the Table of Results is identical to column #1? _____

   What conclusions can you make from this observation about the meaning of **m** ?

   _____

8. Which column of the Table of Results is identical to column #2? _____

   What conclusions can you make from this observation about the meaning of **b** ?

   _____

9. Fill in the chart.

	Equation	m	b	Slope	y-intercept
a	$y = 2x + 4$				
b	$y = 7x - 2$				
c	$y = -3x - 1$				
d	$y = x - 3$				
e	$y = -x + 8$				
f	$y = 4x$				
g	$y = 4$				
h	$y = -x$				
i	$y = -1$				
j	$y = x$				