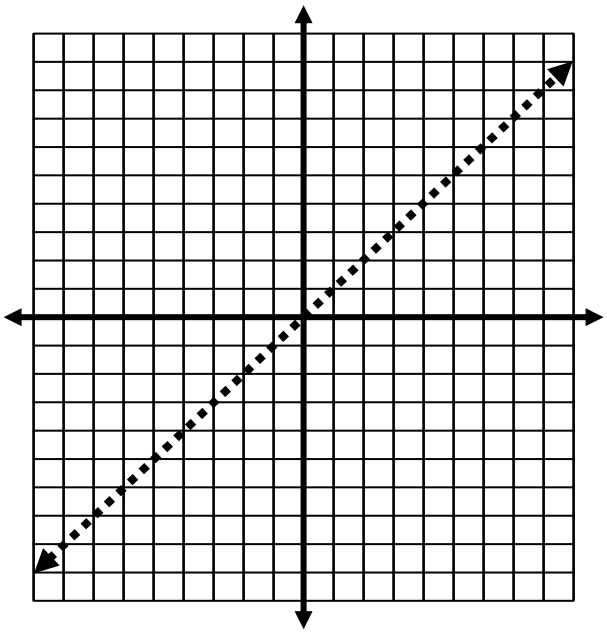
Slope – Day 3
Notes

Name _____
Date _____ Period _____

The slope-intercept form for a linear equation is $y = b + mx$. The coefficient of x and the constant have a special role in graphing a linear function.

1) $y = x$ is graphed for you. This is the parent function.



On the same grid, graph the following in different colors:

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

How does the "2" change the graph?_____

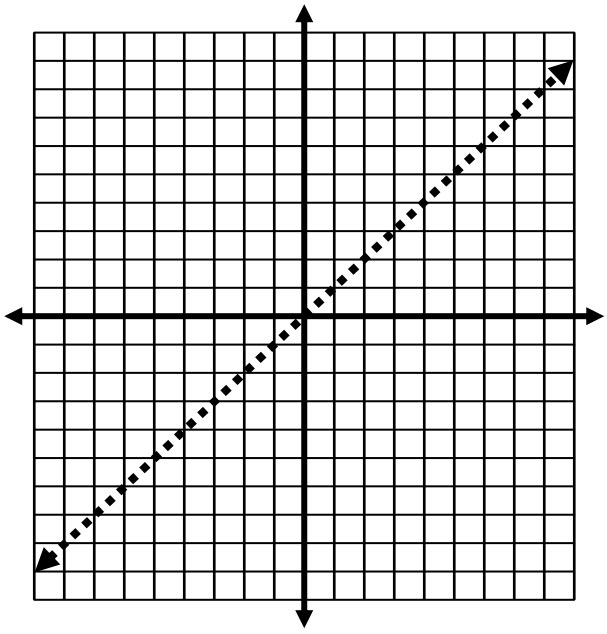
_____

How does the "$\frac{1}{2}$" change the graph?_____

_____

What is the role of the "m" in $y = b + mx$?_____

2) $y = x$ is graphed for you. This is the parent function.



On the same grid, graph the following in different colors:

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

How does the "-1" change the graph?_____

_____

How does the "-2" change the graph?_____

_____

How does the "$-\frac{1}{2}$" change the graph?_____

_____

What is the role of the "m" when it is negative in $y = b + mx$?_____

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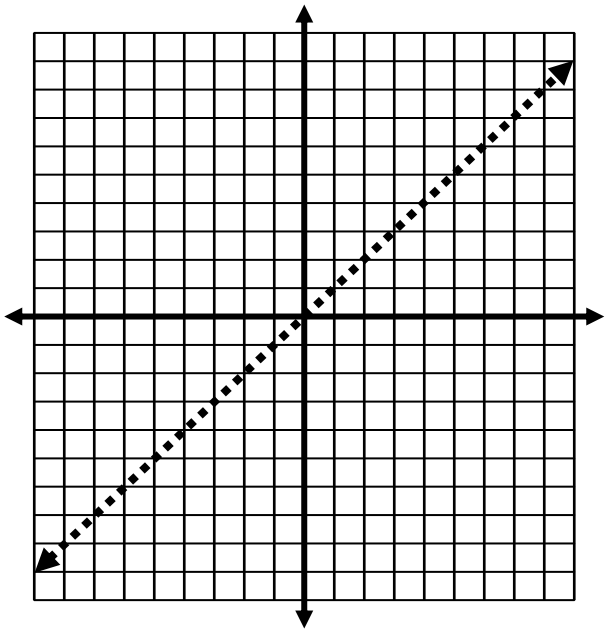
3) $y = x$ is graphed for you. This is the parent function.



On the same grid, graph the following in different colors:

Graph $y = x + 3$ Graph $y = x - 3$

How does the "+ 3" change the graph?_____

_____

How does the "- 3" change the graph?_____

_____

What is the role of the "b" in $y = b + mx$?_____

_____

Without graphing, make a prediction on the appearance of the graph (in comparison to $y = x$) of the following. (Is the graph translated above or below the graph of $y = x$? Does it have a positive or negative correlation? Is the graph steeper or flatter than the graph of $y = x$?)

Equation	Translation: Up/Down	Correlation: Positive/Negative	Steeper/Shallow
4. $y = -4 + 3x$			
5. $y = 5 + \frac{3}{2}x$			
6. $2x + y = -6$			
7. $x + 2y = 6$			

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Just by looking at the table, make a prediction on the appearance of the graph (in comparison to $y = x$) of the following. (Is the graph translated above or below the graph of $y = x$? Does it have a positive or negative correlation? Is the graph steeper or flatter than the graph of $y = x$?)

8. (This is the parent function.)

x	y
0	0
1	1
2	2
3	3
4	4

Rate _____ y-intercept _____

9.

x	y
0	0
1	4
2	8
3	12
4	16

Rate _____ y-intercept _____

Prediction:

10.

x	y
-2	4
-1	7
0	10
1	13
2	16

Rate _____ y-intercept _____

Prediction:

11.

x	y
1	11
2	10
3	9
4	8
5	7

Rate _____ y-intercept _____

Prediction:

12. Describe the change that occurs when the graph of y = x + 3 is changed to y = x – 1.

13. Describe the change that occurs when the graph of y = -x + 1 is changed to y = -3x – 2.