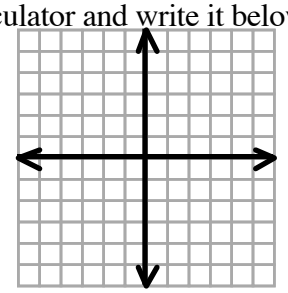
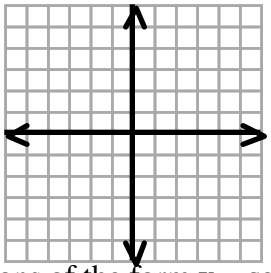
Exploring slope and intercept **Name**_____
Pd____

1. Graph each of the following equations on the graphing calculator and write it below.
   y = 2 y = -3 y = 4.5



   Describe these graphs.

2. Graph each of the following equations on the graphing calculator and write it below.
   x = 2 x = -3 x = 4.5

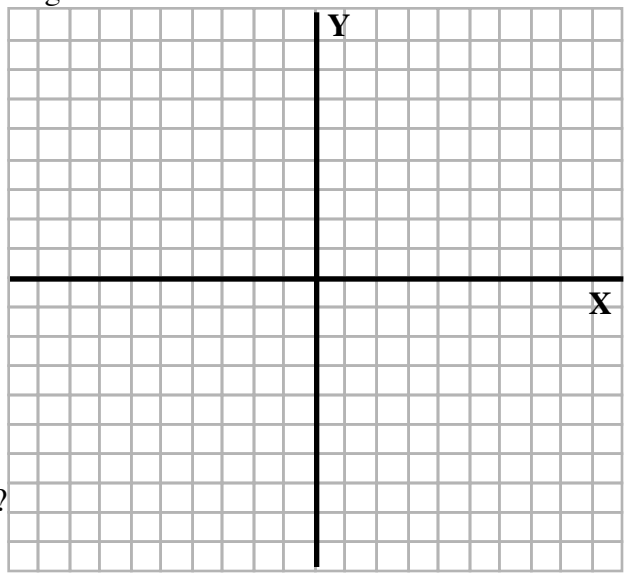


   Describe these graphs.

3. What conclusion can you determine about graphs of equations of the form **y = some number** and **x = some number**?

4. Sketch the following equations on your graphing calculator.
   y = x
   y = x + 2
   y = x - 3
   y = x + 5
   y = x - 1

   Describe the graphs.



5. What conclusion can you determine about graphs of equations of the form **y = x +/- some number**?

6. Where does each equation cross the y-axis?

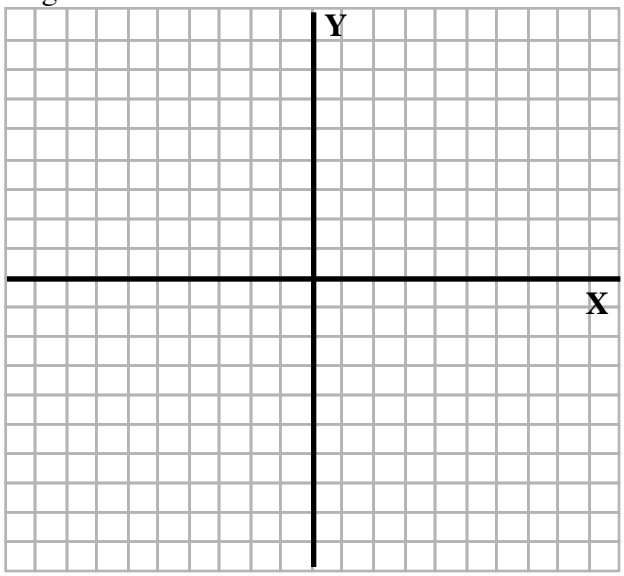
Equation	Y-intercept
y = x	_____
y = x + 2	_____
y = x - 3	_____
y = x + 5	_____
y = x - 1	_____

7. How would you describe the graph of y = x + 50? What about x - 100?

8. Sketch the following equations on your graphing calculator.

y = x
y = 2x
y = 4x
y = 6x

Describe the graphs.



9. Where do each of the graphs intersect the x- and y-axis?

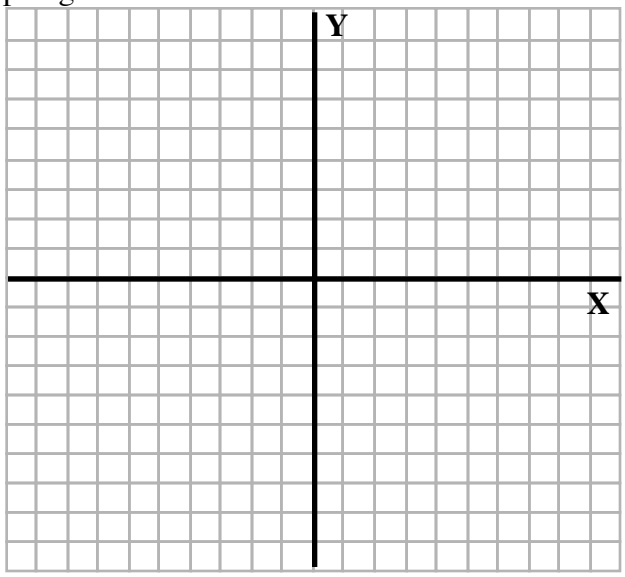
10. What conclusion can you determine about graphs of equations of the form **y = some number times x**?

11. As the coefficient of x increases, describe what happens to the graph of the equation.

12. Sketch the following equations on your graphing calculator.

y = -x
y = -2x
y = -4x
y = -6x

Describe the graphs.



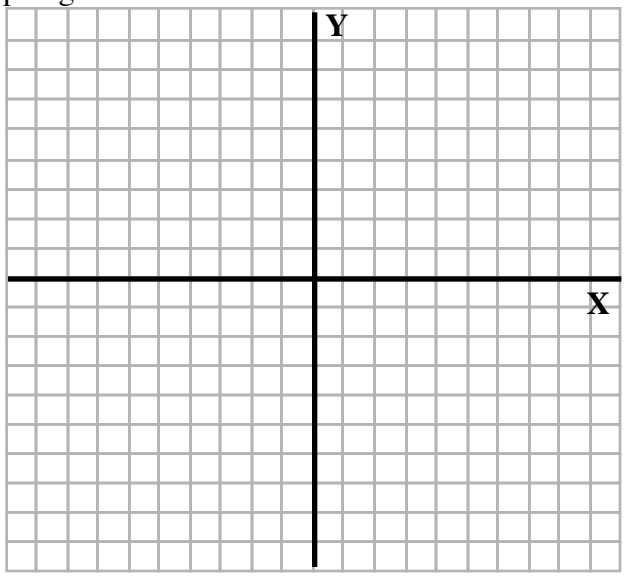
13. Where do each of the graphs intersect the x- and y-axis?

14. What conclusion can you determine about graphs of equations of the form **y = some negative number times x**?

15. How did the negative coefficient effect the graphs?

16. Sketch the following equations on your graphing calculator.

y = 2x + 3
y = 2x + 7
y = 2x - 1



Describe the graphs.

17. What similarities do the graphs have?

18. What differences do the graphs have?

19. What conclusion can you determine about graphs of equations of the form
y = some negative number times x +/- some number?

20. How would you describe the graph of y = 5x + 3 compared to y = 5x - 2?

21. Is there a shortcut to graphing equations in the form
y = some number times x +/- some number?

22. This form is called **slope-intercept form**. It is written **y = mx + b**. You have just discovered another way of graphing!!

M stands for _____ and **B** stands for _____.

What is the shortcut for graphing these equations?

Step 1:

Step 2:

23. List the three different ways of graphing.

1)
2)
3)