Name ____

What Do the Graphs of Linear Functions Look Like?

Graph each of the following equations using a graphing calculator, and then sketch all four lines on the same axis.

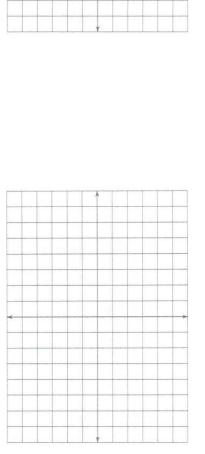
Slope Intercept Form: y = mx+b

Α.	
y =	2x+6
y =	2x+3
y =	2x+5
y =	2x+1

- 1. What stays the same when the lines are drawn?
- 2. What is different?
- 3. Explain what the graph of y = 2x-5 would look like.
- 4. How does changing b, the y-intercept, affect the graph of y = mx+b?

В.	
у =	x+3
y =	2x+3
y =	4x+3
y =	3x+3

- 1. What stays the same when the lines are drawn?
- 2. What is different?
- 3. Explain what the graph of y = 5x+3 would look like.
- 4. How does changing m, the slope, affect the graph of y = mx+b?



С.
y = -2x+6
y = -2x+3
y = -2x + 5
y = -2x+1

- 1. What stays the same when the lines are drawn?
- 2. What is different?
- 3. Explain what the graph of y = -2x+2 would look like.

4. Make a conjecture about how m, the coefficient of x, affects the graph of y = mx+b.

D.
y = -x+4
y = -2x+4
y = -4x + 4
y = -3x+4

- 1. What stays the same when the lines are drawn?
- 2. What is different?
- 3. Explain what the graph of y = -5x+4 would look like.
- 4. Make a conjecture about how adding 4 affects the graph of y = mx+b.

E. How has using the graphing calculator assisted you in understanding what the graphs of linear functions look like?

F. What conclusions can you make?

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