

# Graphing Linear Equations in Snap!

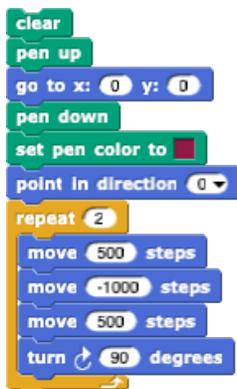
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You're going to design software to graph linear equations!

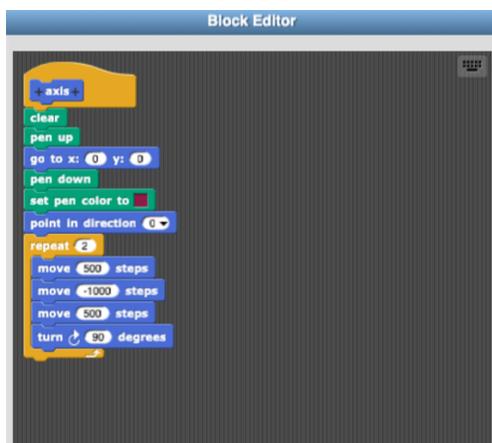
Load Snap!

<http://snap.berkeley.edu>

- Create your X-Y axis. There are lots of ways to accomplish this goal. Here is a simple way of doing so.



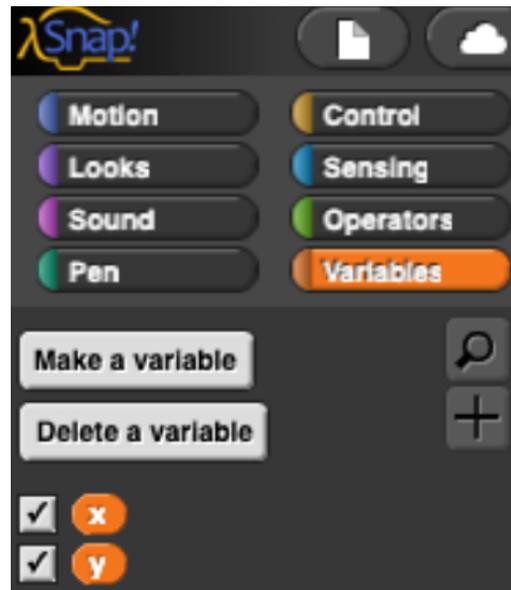
- Make new block, called *axis*.



- Test your axis block by dragging out of the block palette and clicking on it or just clicking on it in the block palette.

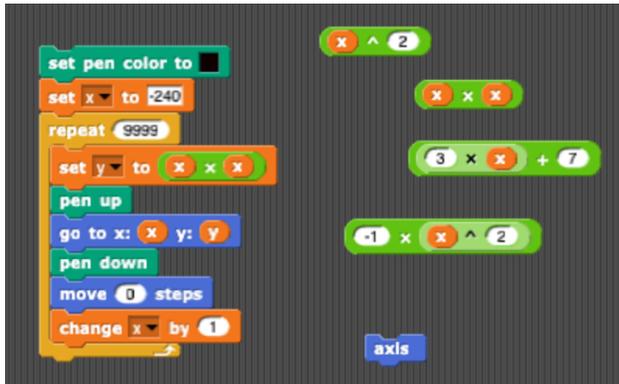
Next, we're going to write a program to graph a linear equation

- Make two variables X and Y



- Set the pen color to black (in order to contrast with the color used in *axis*)
- Set *x* to -240 (the lowest *x* coordinate on the Snap! Screen)
- Repeat 99999 times (a big arbitrary number because I have no idea how many points will be graphed since the equations we use will change)
- Set *y* to \_\_\_\_ (this is where we will enter our linear equation)
- Pen up
- Go to *x:* *y:* and insert the *x* and *y* variables we created in the Variables palette
- Pen down
- Move 0 steps to make a dot on the screen

- Increase (increment) the value of X by 1 using Change X by 1 (You can experiment with that number. Try .1 or .5. What happens if you try 5?)



- Create some algebraic equations or number sentences using Operations such as these



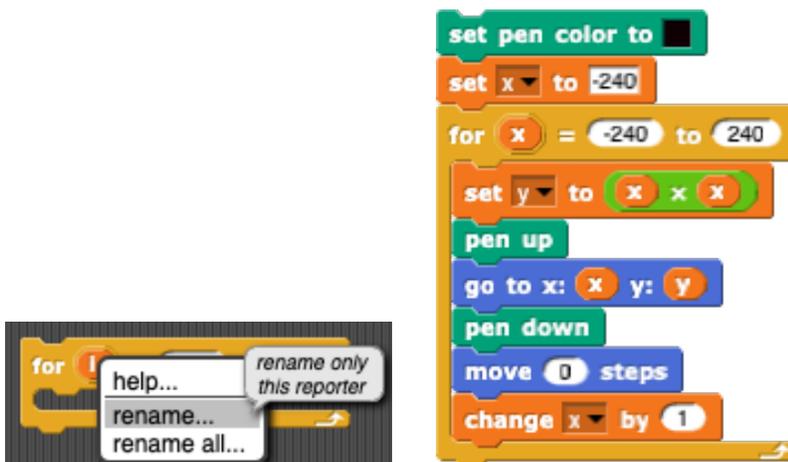
- Then drag one of these equations into the Set Y to \_\_\_ block to change the equation that will be graphed.
- Click anywhere on the stack of blogs to run the program, sit back, and marvel at your graph being created!



### Challenges

1. Try a variety of equations and observe the graphs
2. Graph different equations on the same axis
3. Try this modified version of the graphing program. What's different about it? Do both programs produce the same result?

Change to by control-clicking on the / variable and renaming it x.



4. How would we write a program to generate an X Y table for a linear equation? Could one program graph an equation *and* produce an X Y table?