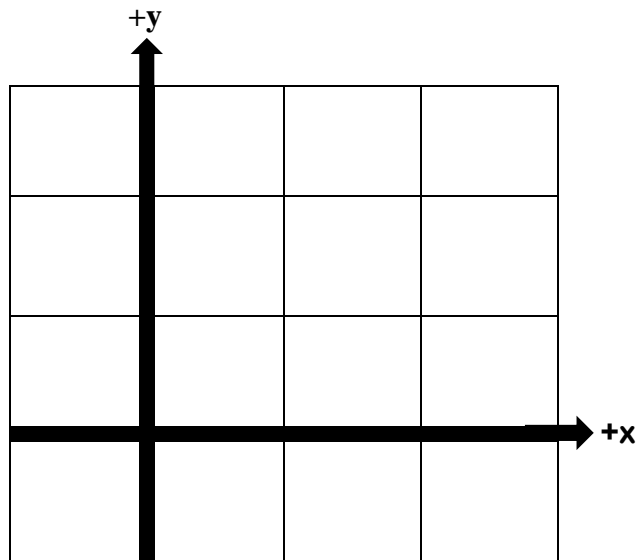Name: _____

GRAPHICS GALORE

+y

+x

Here is an x, y graph. You may notice it from math class. Notice how +x is to the right and +y is up!

If you were to zoom into your computer or phone screen, you would see a ton of pixels or boxes just like the grid below, just without the coordinates. The coordinates refer to the pixel they are inside of. Notice how in this grid the +y is down!

Challenge 1: Fill in the coordinates for a few cells!

(0,0)	(1,0)	(2,0)	(3,0)	(4,0)	(5,0)	(6,0)	(7,0)
(0,1)							
(0,2)							
(0,3)					(5, 3)		
(0,4)							
(0,5)							
(0,6)							
(0,7)							(7,7)

Challenge 3: Starting in cell (2, 1) draw a rectangle that is 3 cells across and 5 cells down. Then write the cell coordinates of the cell in the bottom right hand corner of the rectangle. Finally, fill in how you drew your rectangle.

		(2, 1)		

Bottom Right Corner of Rectangle:

(_____, _____)

I started at point (_____, _____) then I drew a line across 3 cells to cell (_____, _____). Then, I drew a line 5 cells, down to cell (_____, _____). Finally, I *filled* in everything in between those points.

In programming, we do the exact same thing. We say:

x0 = Top left x coordinate

y0 = Top left y coordinate

x1 = Bottom right x coordinate

y1 = Bottom left x coordinate

canvas.create_rectangle(x0, y0, x1, y1, fill = 'color')

or more specifically for the rectangle above…

canvas.create_rectangle(2, 1, 4, 5, fill = 'grey')

Challenge 3: Draw an arrow to what each line of code drew!

canvas.create_rectangle(1,1,2,2, fill = 'black)

canvas.create_rectangle(5,1,6,2, fill = 'black)

canvas.create_rectangle(1,4,1,4, fill = 'black)

canvas.create_rectangle(6,4,6,4, fill = 'black)

canvas.create_rectangle(2,5,5,5, fill = 'black)