

Name: _____

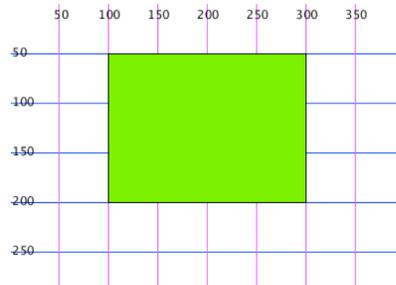
A Puzzle with Rectangles and Triangles

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Today we are going to look at two new shapes, rectangles and triangles. Rectangles are very similar to ellipses. The line of code uses four arguments, and those four arguments stand for the exact same things as the four arguments in an ellipse!

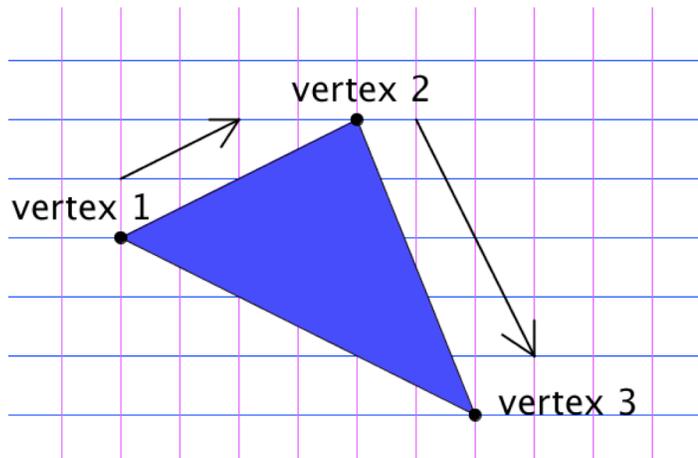
rect (x, y, width, height);

There is one big difference between an ellipse and a rectangle (and no, I don't mean the shape...goofball). The following picture was created with the line *rect (100, 50, 200, 150);*



In an ellipse, the x and y coordinates name the center of the ellipse. What part of the rectangle do the x (100) and y (50) coordinates name? _____

A triangle works a bit differently than the ellipse and the rectangle. To make a triangle, you plot the 3 different points, called vertices, of the triangle. A trick is to name the points going in a clockwise direction.

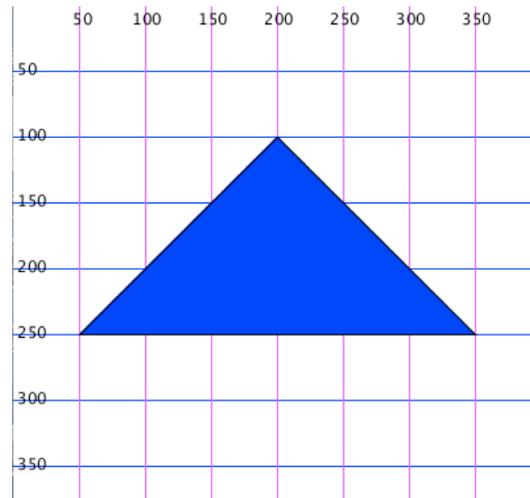


The line of code looks like this...

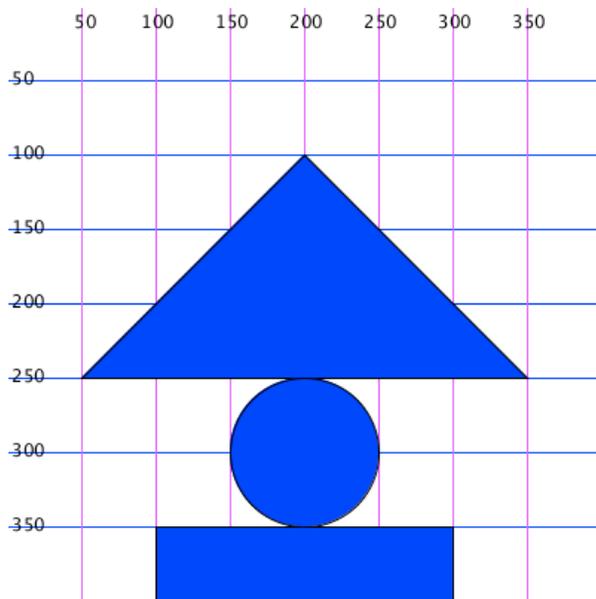
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triangle (x1, y1, x2, y2, x3, y3);
```

The first two arguments, x1 and y1, have a 1 because they name the x and y of the first point. They are a pair that work together to plot vertex number one. Can you finish off the line of code that would create the triangle in the picture below?

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triangle (50, 250, 200, _____, _____, _____);
```



Now let's put these ideas together! Can you recreate this picture?



What would you add to the figure?

//notes for teacher

Might want to alter the start of the lesson to just have the students discover what each of the four arguments in the code for the rectangle do in a similar way to how they experimented to discover what the four arguments for an ellipse do in the very first lesson.

When students were done with the final image, we had them add two triangles to the final shape. The students needed to draw the triangles on their papers first and then add them to the screen image by writing code. Once that was completed, they were allowed to either add whatever else they would like, or start a new picture of their own design.