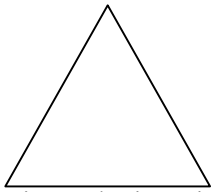
Name: _____
Beauty and Joy of Computing: Drawing Regular Figures

In Geometry, you learned (or will learn) how to calculate the exterior angle of any regular-polygon. In this lesson you will draw a series of regular figures. We want to take a second to make sure understand the math behind this.

We'll take it one figure at a time:

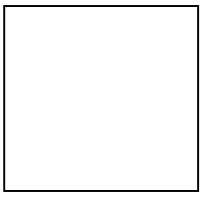
Step 1. The Triangle:



a. Sum of the interior angles in a triangle: 180º
b. Measure of each interior angle : _____
c. Measure of each exterior angle: _____ <== This is the key!
d. Sum of the exterior angles : _____

Step 2: Scratch It …. Now draw the triangle.

Step 3: The Square:



a. Measure of each interior angle: _____
b. Measure of each exterior angle: _____
c. Sum of the exterior angles: _____

Step 4: Scratch It … Now draw the sqaure

Step 5: Putting it together:

a. What do you notice about the sum of the exterior angles in the triangle and square:

b. How is the sum of the exterior angles, the number of sides, and the measure of each exterior angle related:

Step 6: Extend to any figure …

. Given what you figured out in Step 5, finish the chart

# sides	Sum of Exterior Angles	Measure of exterior angle
3		
4		
5		
6		
7		
8		
9		
10		
1000		
n		

Step 7: Scratch It … Draw the figures above

Step 8: The five-sided star is tougher … think about what regular-polygon would circumscribe the five-pointed star.