Name: Date:
Period:

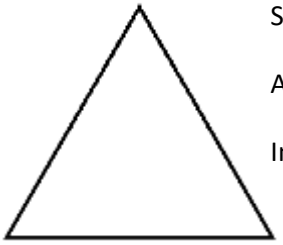
Lesson: Exterior Angles of Polygons

Let's do a few problems we already know how do to before we move on.

To find the **sum of the interior angles** of a polygon we do_____.

For each *regular polygon*, **state the sum of the interior angles** and **find the measure of each angle.**

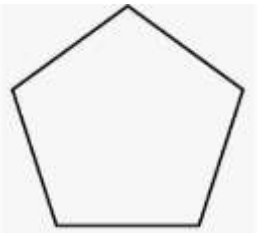
What is meant by a *regular polygon*?_____.



Shape:

Angle Sum:

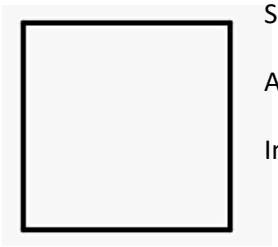
Interior Angle Measure:



Shape:

Angle Sum:

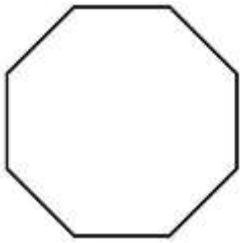
Interior Angle Measure:



Shape:

Angle Sum:

Interior Angle Measure:

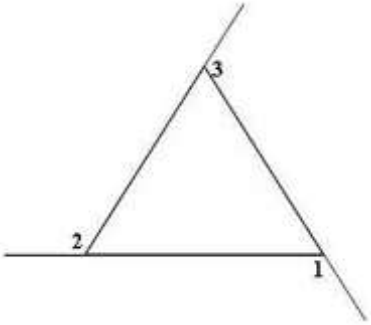


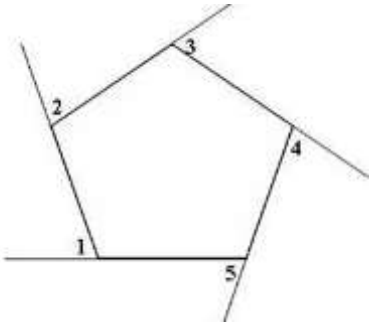
Shape:

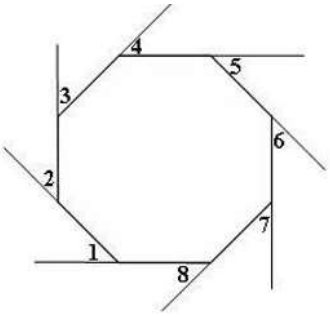
Angle Sum:

Interior Angle Measure:

Now what we want to do is look at the **exterior angles**. Below are all the pictures of our *regular polygons* with their **exterior angles** drawn. Fill in the interior angles that we found in the problems above. After that is completed, see if you can fill in what the **exterior angle** should be using what we have learned recently.







If a polygon is convex, then the sum of the measures of the exterior angles, one at each vertex, is

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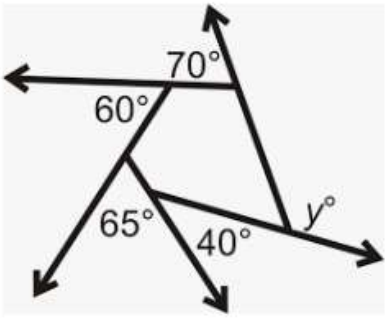
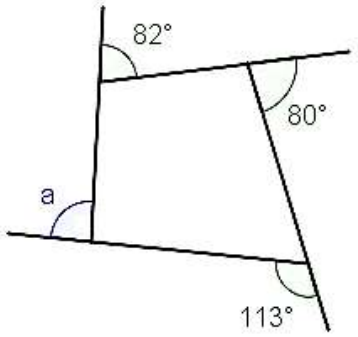
WHAT IS A CONVEX POLYGON????
We will learn later!

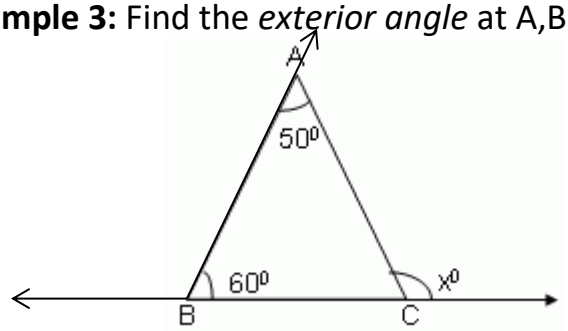
Example 1: Find *y*.



Example 2: Find *a*:

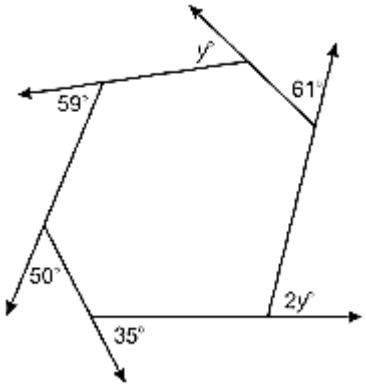


Example 3: Find the *exterior angle* at A,B and C.



Verify the sum of the exterior angles.

Example 4: Find *y*.



Example 5:

How much is one ***exterior angle*** of a regular hexagon?

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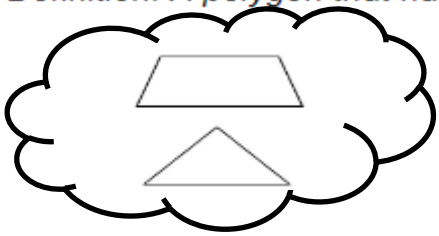
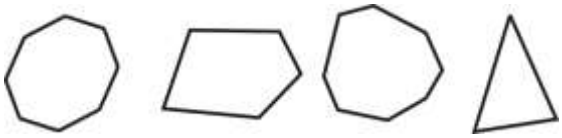
*What is the difference between **convex** and **concave** polygons?*

CONVEX POLYGONS

Definition: A polygon that has all interior angles less than 180°

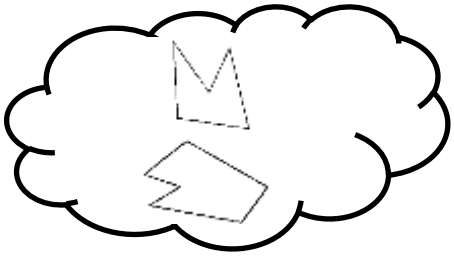


These are other **convex** polygons.



CONCAVE POLYGONS

Definition: A polygon that has one or more interior angles greater than 180°



These are other **concave** polygons.