Essential Math 12
Regular Polygons Assignment   NAME: _____

1. Melissa says that since a dodecagon has twice as many interior angles as a hexagon and the interior angles in a regular dodecagon will be half the size of those in a regular hexagon. Is she right or wrong? Calculate the size of each of the interior angles of a regular hexagon and dodecagon to verify your conclusion.

2. a) Using the picture of the flower, place a dot at the <u>tips</u> (ends) of each petal? Connect these together from petal tip to petal tip, to create a regular polygon. What regular polygon is this?

b) What is the measure of each interior angle?

c) Construct the central angles on the picture as well. What are the measures of each central angle?

3. The floor of a gazebo has the shape of a regular hexagon.
   a) The floor is painted in a pattern that divides the hexagon into equal triangles with the central angles as one angle of each triangle. Draw the lines needed to divide the floor into 6 triangles. (i.e. Construct the central angles)
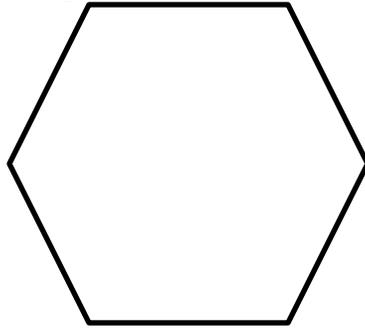
   b) What kind of triangles are these?

   c) What is the measure of each interior angles of the hexagon?

4. Each central angle of a regular polygon has a measure of 36^0.

   a) How many sides does the polygon have?

   b) What is the name of this regular polygon?

5. The Barbados dollar is in the shape of a regular polygon, as shown.
   a) What type of polygon is it?

   b) What is the sum of the interior angles?

   c) What is the size of each interior angle?

6. The dormer window on a house is in the shape of an isosceles triangle. The angle at the top is 76^0.
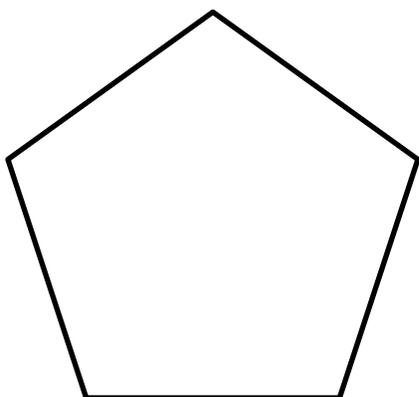   a) What are the measures of the angles at the base of the triangle?

   b) What kind of triangle is it?

7. The shape below has sides of equal length.
   a) What is the nameof this shape?

   b) How many lines of symmetry does it have? Draw them (use a ruler).

   c) How many diagonals does this shape have? Draw them (use a ruler)

   Lines of Symmetry   Diagonals