Date: April 27, 2010 **Subject:** Geometry **Grade:** 7

Unit: Geometry and Spatial Reasoning (Chapter 6)

Lesson: Polygons and Angles (6-3)

Source: Math Connects: Concepts, Skills, and Problem Solving by Day, et.al. (Volume 2, Teacher's Edition)

Student Teacher: Irma Crespo

Objective (Purpose):
Find the sum of the angle measures of a polygon and the measure of an interior angle of a regular polygon.

GLCEs: MI_MATH_K-07-G-TR-03 (***G.TR.07.03***)

Materials:
Pens, pencils, papers, activity worksheets, lecture notes, practice worksheets, calculators

Procedure:

Anticipatory Set

- The routine of homework checking is implemented.
- The teacher recalls the polygon concept and explains what a regular polygon is.
- The angle sum worksheet is distributed.
- Directions are read and explained.
- Students fill in the number of sides, number of triangles, and sum of interior angles. From here, they look for patterns that help them find the algebraic expressions to determine the number of triangles for n-sided polygons and the sum of the interior angle measures of an n-sided polygon.
- When this task is finished, the teacher begins the lesson on polygons and angles.

Questions to Check for Understanding
After discovering the formulas to find the number of triangles of a specific polygon and the sum of the interior angles of a given polygon, students are asked to apply these rules in solving computational problems.

Modeling/Guided and Independent Practice

- The teacher explains how "n-2" is derived from the table in the anticipatory activity.
- Then, a discussion of how "(n-2)*180" is based on the completed table.
- Examples of finding the sum of interior angle measures are presented.
- The teacher demonstrates the solution to a problem and students, in a whole class discussion, tackle the next problems.
- The subsequent lesson on finding a particular measure of one angle takes place.

- Examples are presented for interactive discussion.
- Practice worksheets are handed out for individual completion. These are submitted for grading.

Closure Activity

- The teacher summarizes the current lesson with recap of the main points.

Extension and Application

The exit slip writing activity involves determining the measure of the sum of the interior angles of a square and the measure of one of its angles. The students' responses include an explanation of their solutions. It is an artifact of student understanding. Skill Practice worksheet (6-3, page 21) is a homework that reinforces the lessons learned.

Behavior Management Strategy

- Mix of lecture, interactive discussion, and individual work for differentiated instruction
- Reiterating the students' contribution to the class discussion is a way to compliment student participation.
- Recitation boosts confidence and improves the students' mathematical discourse.

Assessment of Objectives

1. ***Evaluation of Student Learning***

   The teacher evaluates how much the students learned through the activity/practice worksheets, which fulfill the GLCE standards on geometry and spatial reasoning.

Attachments: Activity/practice worksheets and lecture notes

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Name_____ Date_____ Hour_____

Keeping Tab of the Angles

Complete the table.

	TRIANGLE	QUADRILATERAL	PENTAGON	HEXAGON	HEPTAGON	OCTAGON
Number of Sides (n)	3	4	5			
Number of Triangles (n▲)	1	2	3			
Sum of Interior Angles (S)	180	360	540			

1. By looking at the first three columns, find the pattern and complete the rests of the table.
2. What patterns did you notice after completing the table?

_____

_____

_____

_____

3. Write an algebraic expression to represent the number of triangles in an n-sided polygon.

_____

4. Write an algebraic expression to find the sum of the interior angle measures of various polygons.

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"Interior angles are angles that lie inside a polygon."

Adapted from Illuminations