Date: April 28, 2010 **Subject:** Geometry **Grade:** 7

Unit: Geometry and Spatial Reasoning (Chapter 6)

Lesson: Congruent Polygons (6-4)

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

Student Teacher: Irma Crespo

Objective (Purpose):
Identify congruent polygons.

GLCEs: MI_MATH_K-07-G-TR-03 (***G.TR.07.03***); MI_MATH_K-07-G-TR-05 (***G.TR.07.05***)

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

Procedure:

Anticipatory Set

- The routine of homework checking is implemented.
- A pre-lesson activity worksheet is distributed.
- Directions are read and explained.
- Students look for the different kinds of rectangles on a given artwork and label matching rectangles with numbers.
- The teacher discusses the terms "congruence and similarity" with emphasis on the former term. They should be familiar with these by now.
- When this task is finished, the teacher reconnects the previous knowledge on congruent polygons.

Questions to Check for Understanding
Having been exposed to congruent polygons in the past, at least, on a visual level, the current lesson dwells on symbolic representations of congruent polygons. Hence, questions are based on recognizing and using these symbols to make congruence statements and to find missing measures with the concept of congruence.

Modeling/Guided and Independent Practice

- Lecture worksheet is distributed for student completion during discussions.
- The teacher gives a quick review of previously encountered symbols and introduces new ones.
- Then, a discussion of congruent polygons follows.
- Examples to identify congruent polygons are provided.

- To check for progress, other illustrations are presented for students to work on for recitation.
- Finding missing measures with the congruence concept are next.
- Several examples are given for both teacher and students to solve.
- 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 involves having students draw two congruent polygons with sides and angles labeled. Each student explains why the polygons are congruent. This is an artifact of student understanding. Skill Practice worksheet (6-4, page 27) is a homework that reinforces the lessons learned.

Behavior Management Strategy

- Mix of lecture, interactive discussion, and individual work for differentiated instruction.
- The lecture worksheet enhances note-taking skills. With its completion, students realize the significance of note-taking when they take it home to do homework.
- 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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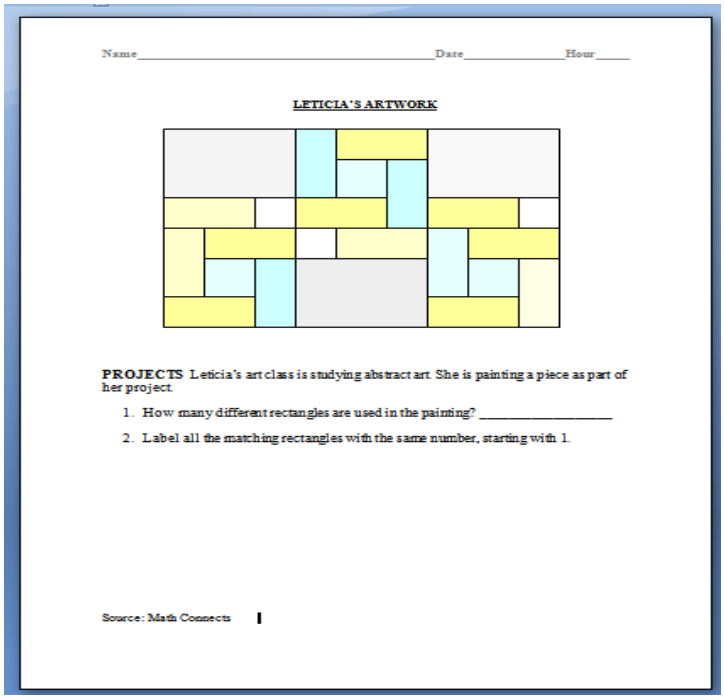
Anticipatory Worksheet and Answer Key:



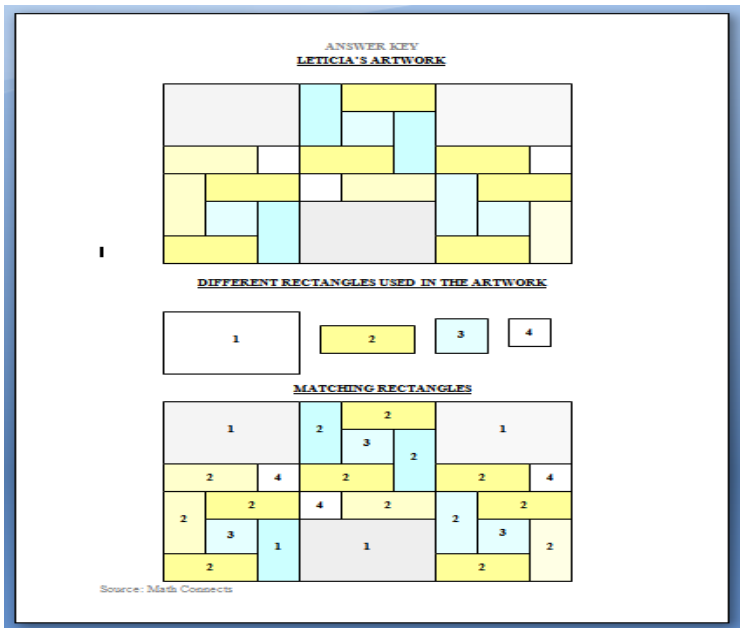
Name_____Date_____Hour_____

LETICIA'S ARTWORK

PROJECTS Leticia's art class is studying abstract art. She is painting a piece as part of her project.

1. How many different rectangles are used in the painting? _____
2. Label all the matching rectangles with the same number, starting with 1.

Source: Math Connects



ANSWER KEY

LETICIA'S ARTWORK

DIFFERENT RECTANGLES USED IN THE ARTWORK

1 2 3 4

MATCHING RECTANGLES

Source: Math Connects

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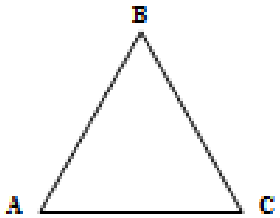
Lecture worksheet I created for students so they can be proficient at note-taking.

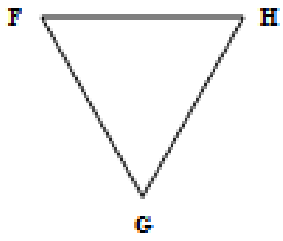
Name_____Date_____Hour_____

Congruent Polygons
(Lecture Notes)

If two polygons are congruent, their corresponding _____ are _____

and their corresponding _____ are _____.





$\triangle ABC$ $\triangle FGH$

Congruent angles: $\angle$__ $\cong$ $\angle$__ ; $\angle$__ $\cong$ $\angle$__ ; $\angle$__ $\cong$ $\angle$__

Congruent sides: ___ $\cong$ ___ ; ___ $\cong$ ___ ; ___ $\cong$ ___

So, $\triangle ABC \cong \triangle FGH$ ⟶ This is the congruence statement.

Find Missing Measures

In the figure, $\triangle AFH \cong \triangle QRN$.

Find m $\angle Q$. _____

Find RN. _____