Anoka-Hennepin Secondary Curriculum Unit Plan

Department:	Mathematics	Course:	Geometry (Honors)	Unit 3 Title:	Similar Triangles	Grade Level(s):	8, 9, 10
Assessed Trimester:	Trimester A	Pacing:	High School: 9 - 11 Middle School: 10 - 13	Date Created:	05/22/2014	Last Revision Date:	08/20/2014

Course Understandings: *Students will understand that:*

B. Coordinate geometry can be used in order to demonstrate spatial relationships.
C. Reasoning skills are required to construct a logical argument.
E. Known geometric measurements are used to derive formulas of two- and three-dimensional figures in order to be used in real world situations.
F. Properties of two- and three-dimensional figures can be used in classification and problem solving.
G. Visualization, spatial reasoning and geometric modeling can be used to solve geometric problems.
H. Algebraic models can be used to solve geometric problems.

DESIRED RESULTS (Stage 1) - WHAT WE WANT STUDENT TO KNOW AND BE ABLE TO DO?

Established Goals

Minnesota State/Local/Technology Standard(s) addressed (2007):

- **Standard (9.3.3.#):** Know and apply properties of geometric figures to solve real-world and mathematical problems and to logically justify results in geometry.
  Benchmark:
  9.3.3.6 Know and apply properties of congruent and similar figures to solve problems and logically justify results.

- **Standard (9.3.4.#):** Solve real-world and mathematical geometric problems using algebraic methods.
  Benchmark:
  9.3.4.7 Use algebra to solve geometric problems unrelated to coordinate geometry, such as solving for an unknown length in a figure involving similar triangles, or using the Pythagorean Theorem to obtain a quadratic equation for a length in a geometric figure.

Transfer

Students will be able to independently use their learning to: (product, high order reasoning)

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Meaning

Unit Understanding(s):	Essential Question(s):
Students will understand that: • similar figures exist in "real life” • lengths can be calculate using proportional reasoning; • scale factors can be calculate when seen in similar figures. • a relationship exists between algebra with geometry in specific problem solving situations. • algebraic formulas and/or equations can be applied to geometric settings.	**Students will keep considering:** •

Acquisition

Knowledge - Students will:	**Reasoning - Students will:**
● Understand ratios and proportions ● Identify similar and congruent triangles ● Know the difference between similar and congruent figures	● Compare similar triangles by finding ratio of corresponding sides ● Prove two figures are similar **Skills - Students will:** ● Use proportions to find missing side lengths of similar figures

Common Misunderstandings	**Essential new vocabulary**
● Students sometimes misinterpret "scale factor," or use it incorrectly. ● Students sometimes set up proportions incorrectly. ● Students might interchange the terms circumference and diameter. ● Students might interchange the terms perimeter (or circumference) with area. ● Students might apply formulas incorrectly.	● scale factor