Curriculum: Katherine Baker

Learning-Focused Toolbox

Date: July 24, 2011 ET

Teacher / Team Name: Geometry Honors

Topic: Unit 7: Proportions and Similarity (HON)

Days: 13

Subject(s): Math

Grade(s): 8th, 9th, 10th, 11th, 12th

Know:	Understand:	Do:
Key Vocabulary Similar Triangles Triangle Proportionality Theorem Similarity Transformations	Similar figures and their scale factors will be used to write proportions to solve problems.	Write ratios Write and solve proportions Use proportions to identify similar polygons Solve problems using the properties of similar polygons Identify similar triangles and use them to solve problems Use proportional parts within triangles Recognize and use proportional relationships of corresponding segments of similar triangles Use the triangle angle bisector theorem Identify similarity transformations and verify similarity Interpret scale models Use scale factor to solve problems

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Which standards are students learning in this unit?

MA.912.D.11.5:
Explore and use other sequences found in nature such as the fibonacci sequence and the golden ratio .
High
MA.912.G.2.3:
Use properties of congruent and similar polygons to solve mathematical or real-world problems.
High
MA.912.G.2.4:
Apply transformations (translations, reflections, rotations, dilations, and scale factors) to polygons. to determine congruence, similarity, and symmetry. Know that images formed by translations, reflections, and rotations are congruent to the original shape. Create and verify tessellations of the plane using polygons.
High
MA.912.G.2.5:
Explain the derivation and apply formulas for perimeter and area of polygons (triangles, quadrilaterals, pentagons, etc.).
Moderate
MA.912.G.2.6:
Use coordinate geometry to prove properties of congruent, regular and similar polygons, and to perform transformations in the plane.
MA.912.G.3.3:
Use coordinate geometry to prove properties of congruent, regular, and similar quadrilaterals.
High
MA.912.G.4.5:
Apply theorems involving segments divided proportionally.
Moderate
MA.912.G.4.6:
Prove that triangles are congruent or similar and use the concept of corresponding parts of congruent triangles.
High
MA.912.G.4.7:
Apply the inequality theorems: triangle inequality, inequality in one triangle, and the Hinge theorem.
Moderate
MA.912.G.4.8:
Use coordinate geometry to prove properties of congruent, regular, and similar triangles.
High
MA.912.G.8.4**:**
Make conjectures with justifications about geometric ideas. Distinguish between information that supports a conjecture and the proof of a conjecture.
High