

Teacher / Team Name: Geometry Honors

Topic: Unit 5: Relationships with Triangles (HON)

Days: 12

Subject(s): Math

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

Know:

Understand:

Do:

<p>Key Vocabulary</p> <p>Hinge Theorem</p> <p>Triangle-Inequality Theorem</p>	<p>Triangle relationships are used to find and compare angle measures and distances.</p>	<p>Identify and use perpendicular bisectors in triangles</p> <p>Identify and use angle bisectors in triangles</p> <p>Identify and use medians in triangles</p> <p>Identify and use altitude in triangles</p> <p>Recognize and apply properties of inequalities to the measure of the angles of a triangle</p> <p>Recognize and apply properties of inequalities to the relationships between the angles and the sides of a triangle</p> <p>Use the triangle inequality theorem to identify possible triangles</p> <p>Prove triangle relationships using the triangle inequality theorem</p> <p>Apply the hinge theorem or its converse to make comparisons in two triangles</p> <p>Prove triangle relationships using the hinge theorem or its converse</p> <p>Write indirect algebraic proofs</p> <p>Write indirect geometric proofs</p>
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Which standards are students learning in this unit?

LA.1112.1.6.1:

The student will use new vocabulary that is introduced and taught directly;

LA.1112.1.6.2:

The student will listen to, read, and discuss familiar and conceptually challenging text;

MA.912.G.4.1:Classify, construct, and describe triangles that are right, acute, obtuse, scalene, isosceles, equilateral, and equiangular.

Moderate

MA.912.G.4.2:Define, identify, and construct altitudes, medians, angle bisectors, perpendicular bisectors, orthocenter, centroid, incenter, and circumcenter.

Moderate

MA.912.G.4.5:Apply theorems involving segments divided proportionally.

Moderate

MA.912.G.4.7:Apply the inequality theorems: triangle inequality, inequality in one triangle, and the Hinge theorem.

Moderate

MA.912.G.6.4:Determine and use measures of arcs and related angles (central, inscribed, and intersections of secants and tangents).

Moderate

MA.912.G.6.5:Solve real-world problems using measures of circumference, arc length, and areas of circles and sectors.

High

MA.912.G.8.5:Write geometric proofs, including proofs by contradiction and proofs involving coordinate geometry.Use and compare a variety of ways to present deductive proofs, such as flow charts, paragraphs, two-column, and indirect proofs.

High