

Teacher / Team Name: Geometry Honors

Topic: Unit 2: Proofs and Reasonings (HON)

Days: 14

Subject(s): Math

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

Know:

Understand:

Do:

<p>Key Vocabulary</p> <p>If-then Statements</p> <p>Proofs</p> <p>Law of Detachment</p> <p>Law of Syllogism</p>	<p>Reasoning and logic will be used to solve geometric proofs.</p>	<p>Find counterexamples.</p> <p>Use logical reasoning to prove statements to be true.</p> <p>Analyze statements in if-then form.</p> <p>Write converse, inverses, and contrapositives.</p> <p>Use the Law of Detachment.</p> <p>Use the Law of Syllogism.</p> <p>Identify and use basic postulates about points, lines, and planes.</p> <p>Write paragraph proofs.</p> <p>Use algebra to write two-column proofs</p> <p>Use properties of equality to write geometric proofs.</p> <p>Write proofs involving segment addition</p> <p>Write proofs involving congruence.</p> <p>Write proofs involving supplementary and complementary angles.</p> <p>Write proofs involving congruent and right angles.</p>
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Which standards are students learning in this unit?

MA.912.D.6.1:Use truth tables to determine truth values of propositional statements.

MA.912.D.6.2:Find the converse, inverse, and contrapositive of a statement

MA.912.D.6.3:Determine whether two propositions are logically equivalent.

MA.912.D.6.4:Use methods of direct and indirect proof and determine whether a short proof is logically valid.

MA.912.G.8.1:Analyze the structure of Euclidean geometry as an axiomatic system. Distinguish between undefined terms, definitions, postulates, and theorems.

MA.912.G.8.2:Use a variety of problem-solving strategies, such as drawing a diagram, making a chart, guess-and-check, solving a simpler problem, writing an equation, and working backwards.

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.

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.

LA.910.1.6.5 The student will relate new vocabulary to familiar words;