

Teacher / Team Name: Geometry Honors

Topic: Unit 2: Proofs and Reasonings (HON)

Days: 14

Subject(s): Math

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

**Key Learning:**  
Reasoning and logic will be used to solve geometric proofs.



**Unit Essential Question(s):** How do you use reasoning and logic to solve geometric proofs?

<p><b>Concept:</b> <b>Inductive Reasoning, Conjecture, and Logic</b></p>	<p><b>Concept:</b> <b>Conditional Statements and Deductive Reasoning</b></p>	<p><b>Concept:</b> <b>Postulates and Proofs</b></p>
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<p><b>Lesson Essential Question(s):</b> How do you use inductive reasoning in mathematics? (A)</p> <p>How do you use logical reasoning to prove statements are true? (A)</p>	<p><b>Lesson Essential Question(s):</b> How do you write conditional statements? (A)</p> <p>What similarities/differences exist between inductive and deductive reasoning? (A)</p>	<p><b>Lesson Essential Question(s):</b> What are the basic postulates that relate to points, lines, and planes? (A)</p> <p>How do you solve an algebraic equation using two column proofs? (A)</p> <p>How do you write a proof involving segment addition and congruence? (A)</p> <p>How do you write a proof involving angle addition and congruence? (A)</p>
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<p><b>Vocabulary:</b> conjecture, counterexample, statement, negation, compound statement, conjunction, disjunction, inductive reasoning</p>	<p><b>Vocabulary:</b> conditional statement, if-then statement, hypothesis, conclusion, related conditionals, converse, inverse, contrapositive, logically equivalent, deductive reasoning, Law of Detachment, Law of Syllogism, valid</p>	<p><b>Vocabulary:</b> proof, theorem, deductive argument, paragraph proof, informal proof, algebraic proof, two-column proof, formal proof</p>
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**Additional Information:**  
Sections: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8

**Attached Document(s):**

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Vocab Report for Topic: Unit 2: Proofs and Reasonings (HON)

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**Concept: Inductive Reasoning, Conjecture, and Logic**

- conjecture -
- counterexample -
- statement -
- negation -
- compound statement -
- conjunction -
- disjunction -
- inductive reasoning -

**Concept: Conditional Statements and Deductive Reasoning**

- conditional statement -
- if-then statement -
- hypothesis -
- conclusion -
- related conditionals -
- converse -
- inverse -
- contrapositive -
- logically equivalent -
- deductive reasoning -
- Law of Detachment -
- Law of Syllogism -
- valid -

**Concept: Postulates and Proofs**

- proof -
- theorem -
- deductive argument -
- paragraph proof -
- informal proof -
- algebraic proof -
- two-column proof -
- formal proof -