Title	**Pythagorean Theorm**
Grade	High School
Materials	YouTube Videos for examples • http://www.youtube.com/watch?v=ku4rEwRxZOc • http://www.youtube.com/watch?v=meQfI8Yh6k4 Computer with Internet access Print resources geometry and ancient Greece
Objective	Given the YouTube video, computers with internet and classroom materials, students will discover the Greek achievements in mathematics as well as understand a concept of their choice and be ablet to teach it to the class.
Procedure	Given the YouTube video, computers with internet and classroom materials, students will discover the Greek achievements in mathematics as well as understand a concept of their choice and be ablet to teach it to the class.
Evaluation	Use the following three-point rubric to evaluate students' work during this lesson. Three points: Students were highly engaged in class discussions; produced complete reports, including all of the requested information; clearly demonstrated the ability to measure indirectly, and showed a complete understanding of using deductive reasoning in mathematical proofs. Two points: Students participated in class discussions; produced an adequate report, including most of the requested information; satisfactorily demonstrated the ability to measure indirectly, and showed a satisfactory understanding of using deductive reasoning in mathematical proofs. One point: Students participated minimally in class discussions; created an incomplete report with little or none of the requested information; were not able to measure indirectly, or adequately use deductive reasoning in mathematical proofs.
Standards	National Council of Teachers of Mathematics (NCTM) ?The National Council of Teachers of Mathematics provides guidelines for teaching mathematics in grades K-12 to promote mathematical literacy. To view the standards, visit this Web site:http://standards.nctm.org/document/chapter3/index.htm ?This lesson plan addresses the following national standards: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships Use visualization, spatial reasoning, and geometric modeling to solve problems Mid-continent Research for Education and Learning (McREL) ?McREL's Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education addresses 14 content areas. To view the standards and benchmarks, visithttp://www.mcrel.org/compendium/browse.asp.?This lesson plan addresses the following national standards: Mathematics: Understands and applies basic and advanced properties of the concepts of geometry; Use the Pythagorean theorem and its converse and properties of special right triangles to solve mathematical and real-world problems; Understands the basic concepts of right triangle trigonometry (e.g., basic trigonometric ratios such as sine, cosine, and tangent); Uses trigonometric ratio methods to solve mathematical and real-world problems (e.g., determination of the angle of depression between two markers on a contour map with different elevations); Uses properties of and relationships among figures to solve mathematical and real-world problems (e.g., uses the property that the sum of the angles in a quadrilateral is equal to 360 degrees to square up the frame for a building; uses

	understanding of arc, chord, tangents, and properties of circles to determine the radius given a circular edge of a circle without the center) Science: Physical Science: Understands the structure and properties of matter; Understands the sources and properties of energy World History: Understands Greek achievements in mathematics Historical Understanding: Understands the impact and achievements of the Hellenistic period (e.g., major lasting achievements of Hellenistic art, mathematics, science, philosophy, and political thought; the impact of Hellenism on Indian art; how architecture in West Asia after the conquests of Alexander reflected Greek and Macedonian influence)
Credit	Math lesson from DiscoveryEducation.com Math lesson adapted by Anne Iovinelli