Planned Course: Honors Geometry	Course Number: S307H	Department: Mathematics	
Unit: Tools of Geometry Estimated Time: 20 days	Grade Level: 9-12 Level/Track: Honors	Date Approved: 7/15/08	
PA Academic Standards	**Core Concepts (in question format)** • **Skills/Knowledge**	**Activities/Strategies/Study Skills (identify some activities as remedial or enrichment activities)**	**Assessments (include types and topics)**
Assessment Anchors: **M11.B.2** Apply appropriate techniques, tools and formulas to determine measurements. **M11.B.2.1** Use and/or compare measurements of angles. **M11.B.2.2** Use and/or develop procedures to determine or describe measures of perimeter, circumference, area, surface area, and/or volume. (May require conversions within the same system.) **M11.B.2.3** Describe how a change in one dimension of a figure (2 or 3 dimensional) affects other measurements of that figure. **M11.C.1.2** Recognize and/or apply properties of angles, triangles, and quadrilaterals. **M11.C.3** Locate points or describe relationships using the coordinate plane. **M11.C.3.1** Solve problems using analytic geometry. **Academic Standards:** 2.5.11 Mathematical Problem Solving and Communication	►How do the three undefined terms and their relationship to each other set the foundation for the development of geometry? • Student will be able to conceptualize the undefined terms and the postulates relating to them. ►What geometric tools and formulas can be used to measure and compare segments, angles, and basic geometric figures? • Student will be able to use the ruler postulate, segment addition postulate, midpoint formula, and distance formula to measure and compare segments. • Student will be able to use the protractor postulate and angle addition postulate to measure, classify, and compare angles and angle pairs.	– The student will use the undefined terms to define other geometric objects and concepts. – The student will use correct geometric notation to identify geometric objects and how they relate to each other. – The student will analyze diagrams to determine missing angles, segment lengths, perimeter, area, and surface area. – The student will measure angles with a protractor and verify various angle relationships. – The student will solve for angles or segments by setting up algebraic equations based on the postulates.	• Graded assignments • Classroom observation and/or participation • Quiz • Test

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A. Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multi-step problems. B. Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas and results. 2.9.11 Geometry A. Construct geometric figures using dynamic geometry tools (e.g., Geometer's Sketchpad, Cabri Geometre). F. Use the properties of angles, arcs, chords, tangents and secants to solve problems involving circles.	• Student will be able to find the perimeter, circumference, area and surface area of basic geometric figures and combinations of these figures.	– Enrichment Activity: The student will use only a straightedge and compass to construct congruent segments and angles, and bisect them.	