

**Glencoe Geometry: Integration, Applications,
Connections ©2001**

correlated to

**SOUTH CAROLINA
MATH CURRICULUM STANDARDS
Geometry**

OBJECTIVES	LESSON REFERENCES
<p>I. Geometric Structure</p> <p>A. Axiomatic Systems</p> <p>1. Develop an awareness of the structure of a mathematical system, connecting definitions, postulates, logical reasoning, and theorems.</p> <p>2. Recognize that the study of geometry was developed for a variety of purposes and that it has historical significance.</p> <p>B. Verification of Conjectures</p> <p>1. Explore attributes of geometric figures using</p>	<p>1-4, 1-5, 1-6, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 3-5, 4-2, 4-3, 4-4, 4-5, 4-6, 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 6-1, 6-2, 6-3, 6-4, 6-5, 7-2, 7-3, 7-4, 7-5, 7-SGA, 8-1, 8-2, 9-2, 9-3, 9-4, 9-5, 9-6, 9-7, 10-1, 10-3, 10-4, 10-6, 11-8, 12-1, 12-6, 13-4, 13-7, 13-8, Postulates, Theorems and Corollaries</p> <p>1-1, 1-3, 1-4, 1-6, 2-4, 3-1, 3-6, 4-1, 4-2, 4-4, 4-5, 4-6, 5-1, 5-2, 5-5, 5-6, 6-3, 6-5, 6-SGA, 7-1, 7-2, 7-3, 7-4, 7-6, 8-1A, 8-1, 8-3, 8-4, 8-5, 8-6, 8-SGA, 9-1, 9-3, 9-4, 9-5, 9-6, 9-7, 9-8, 10-1, 10-5, 10-7, 11-1, 11-2, 11-2B, 11-3, 11-4, 11-ST, 11-6, 11-7, 11-SGA, 12-1, 12-4, 12-5, 13-2, 13-8</p> <p>GAGC, 1-4A, 1-4, 1-5, 1-6, 1-7A, 1-7, 2-1, 2-3, 2-6, 3-2A, 3-3, 3-4, 3-5B, 4-1,</p>

<p>KEY GAGC = Getting Acquainted with the Graphing Calculator SGA = Study Guide and Assessment</p>	<p>ST = Self Test STP = Standardized Test Practice</p>
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OBJECTIVES	LESSON REFERENCES
<p>constructions with straight-edge and compass; paper folding; and dynamic, interactive geometry software.</p> <p>2. Make and verify conjectures about angles, lines, polygons, circles, and three-dimensional figures, choosing from a variety of approaches such as coordinate, transformational, or axiomatic.</p> <p>C. Logical Reasoning and Proof</p> <p>1. Determine whether the converse of a conditional statement is true or false.</p> <p>2. Use logical reasoning to draw conclusions about geometric figures from given assumptions.</p> <p>3. Construct and judge validity of a logical argument consisting of a set of premises and a conclusion.</p> <p>4. Use inductive reasoning to formulate a conjecture.</p>	<p>4-2, 4-4A, 4-5, 4-6, 5-1, 5-2, 6-1A, 6-3A, 6-3, 6-4, 6-5, 7-4, 8-1, 8-3, 9-3, 9-4, 9-5A, 9-5, 9-7, 10-3, 10-5, 10-6, 11-4, 11-7, 12-4, 13-1, 13-2, 13-3, 13-4, 13-6B</p> <p>2-1, 2-ST, 2-4, 2-5, 2-6, 2-SGA, 3-2A, 3-2, 3-3, 3-4, 3-5, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-SGA, 5-1, 5-2, 5-3, 5-ST, 5-4, 5-5, 5-6, 5-SGA, 6-1A, 6-2, 6-3, 6-ST, 6-4, 6-5, 6-SGA, 7-3, 7-4, 7-5, 7-6, 8-1, 8-ST, 8-5, 9-3, 9-4, 9-5, 9-6, 9-7, 10-3, 11-8, 12-2, 12-4, 12-5, 12-6, 13-7</p> <p>2-2, 2-ST, 2-SGA, 4-6, 5-4, 8-1, 9-5</p> <p>2-3, 2-ST, 2-4, 2-5, 2-6, 2-SGA, 3-2, 3-3, 3-4, 3-5, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-SGA, 5-1, 5-2, 5-3, 5-ST, 5-4, 5-5, 5-6, 5-SGA, 6-1, 6-2, 6-3, 6-ST, 6-4, 6-5, 6-SGA, 7-3, 7-4, 7-5, 7-6, 8-1, 8-ST, 8-5, 9-3, 9-4, 9-5, 9-7, 10-3, 11-8, 12-2, 12-4, 12-5, 12-6, 13-7</p> <p>2-3, 2-ST, 2-4, 2-5, 2-6, 2-SGA, 3-2, 3-3, 3-4, 3-5, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-SGA, 5-1, 5-2, 5-3, 5-ST, 5-4, 5-5, 5-6, 5-SGA, 6-1, 6-2, 6-3, 6-ST, 6-4, 6-5, 6-SGA, 7-3, 7-4, 7-5, 7-6, 8-1, 8-ST, 8-5, 9-3, 9-4, 9-ST, 9-5, 9-6, 9-7, 10-3, 11-8, 12-2, 12-4, 12-5, 12-6, 13-7</p> <p>2-1, 2-3, 2-ST, 2-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>5. Use deductive reasoning to prove a statement.</p> <p>D. Representing Geometric Relationships</p> <p>1. Select an appropriate representation (concrete, pictorial, graphical, verbal, or symbolic) to solve a problem.</p> <p>2. Use dynamic, interactive geometry software to represent geometric relationships and solve problems.</p> <p>3. Find optimal solutions to problems involving paths, networks, or relationships among a finite number of objects using digraphs or vertex-edge graphs.</p>	<p>2-3, 2-ST, 2-4, 2-5, 2-6, 2-SGA, 3-2, 3-3, 3-4, 3-5, 4-1, 4-2, 4-3, 4-ST, 4-4, 4-5, 4-6, 4-SGA, 5-1, 5-2, 5-3, 5-ST, 5-4, 5-5, 5-6, 5-SGA, 6-1, 6-3, 6-ST, 6-4, 6-5, 6-SGA, 7-3, 7-4, 7-5, 7-6, 8-1, 8-ST, 8-5, 9-3, 9-4, 9-5, 9-6, 10-3, 11-8, 12-2, 12-4, 12-5, 12-6, 13-7, 13-8</p> <p>1-2, 1-3, 1-4A, 1-4, 1-5, 1-6, 1-7A, 1-7, 2-1, 2-2, 2-2B, 2-3, 2-6, 3-1, 3-2A, 3-2, 3-3, 3-4, 3-5, 3-5B, 3-6, 3-SGA, 4-1, 4-2A, 4-2, 4-3, 4-4A, 4-5, 4-6, 5-1, 5-2, 5-ST, 5-4, 5-5A, 5-6, 6-1A, 6-1, 6-2, 6-3A, 6-4, 6-4B, 6-5, 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, 7-6B, 8-1A, 8-1, 8-3, 8-4, 8-5, 8-6, 9-1, 9-2, 9-3, 9-4, 9-5A, 9-5, 9-6, 9-7, 9-8, 10-1, 10-2, 10-3A, 10-3, 10-4, 10-5A, 10-5, 10-6, 11-1A, 11-1, 11-1B, 11-2, 11-2B, 11-3, 11-4, 11-5, 11-6A, 11-6, 11-7, 11-8, 12-1, 12-2A, 12-2, 12-4, 12-5A, 12-5, 13-2, 13-3, 13-4, 13-5, 13-6A, 13-6, 13-6B, 13-7</p> <p>GAGC, 1-3, 1-4A, 1-5, 1-7A, 2-1, 2-2B, 3-2A, 3-3, 3-5B, 4-1, 4-2, 5-1, 5-2, 5-5A, 5-5, 6-1A, 6-3A, 6-3, 6-5, 7-1, 7-5, 8-1, 9-5A, 9-7, 10-3A, 10-4, 10-5, 10-6, 11-5, 11-6, 11-8, 12-2A, 12-2, 12-5, 13-2, 13-4, 13-6B</p> <p>10-7, 10-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>II. Geometric Patterns</p> <p>A. Two- and Three-Dimensional Geometric Figures</p> <ol style="list-style-type: none"> 1. Use numeric and geometric patterns to make generalizations about geometric properties, including properties of polygons, ratios in similar figures and solids, triangle inequality, and angle relationships in polygons and circles. 2. Identify and apply patterns from right triangles to solve problems. 3. Draw, examine, and classify cross sections of three-dimensional objects. 4. Construct a three-dimensional object using a two-dimensional diagram such as a blueprint or pattern. 5. Use top, front, side, and corner views of three-dimensional objects to create accurate and complete representations and solve problems. 6. Represent a three-dimensional object in two dimensions using graph or dot paper. 	<p>4-2A, 4-2, 4-6, 5-1, 5-2, 5-4, 5-5A, 5-5, 5-6, 6-1A, 6-2, 6-3A, 6-3, 6-4B, 6-5, 7-1, 7-2, 7-3, 7-5, 7-6, 8-1A, 8-1, 8-3, 9-1, 9-4, 9-5, 10-1, 10-2, 10-3, 10-5, 11-2, 11-4, 11-5, 11-8</p> <p>5-2, 8-1, 8-2, 8-3, 8-4, 8-SGA</p> <p>11-1</p> <p>11-1, 11-2, 11-4, 11-5, 11-6A</p> <p>11-1, 11-2, 11-ST, 11-5, 11-SGA</p> <p>11-1, 11-2, 11-3, 11-ST, 11-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>III. Geometry of Location</p> <p>A. Coordinate Geometry</p> <ol style="list-style-type: none"> 1. Given geometric figures, utilize a coordinate system to identify and justify conjectures. 2. Use slopes and equations of lines to investigate geometric relationships, including parallel lines, perpendicular lines, and special segments of triangles and other polygons. 3. Develop and use formulas including distance and midpoint. 4. Given two ordered pairs, find the distance between them, locate the midpoint, and determine the slope of the line that contains them. <p>B. Transformations</p> <ol style="list-style-type: none"> 1. Plot coordinates for translations and describe the vertical and horizontal transformational vector(s). 2. Translate, reflect, rotate, and dilate figures on the plane. 3. Analyze the symmetry of objects using the language of transformations. 4. Use transformations and their compositions to make connections between 	<p>12-4, 12-SGA, 13-4, 13-5, 13-6, 13-6B, 13-7, 13-8</p> <p>3-3, 3-ST, 3-4, 3-5, 3-SGA, 10-3, 12-1, 12-2A, 12-2, 12-3, 12-ST</p> <p>1-4, 1-5, 1-6, 1-SGA, 3-5, 4-1, 4-4, 6-2, 6-3, 6-4, 7-2, 7-4, 9-8, 10-3, 12-4, 12-5, 12-6, 13-4</p> <p>1-4, 1-5, 1-SGA, 3-3, 3-4, 3-5, 3-SGA, 4-1, 4-4, 6-2, 6-3, 6-4, 7-2, 7-4, 9-8, 10-3, 12-1, 12-4, 12-5, 12-6, 13-4</p> <p>4-3, 10-2A, 12-STP, 13-4, 13-6, 13-6B, 13-7, 13-SGA,</p> <p>4-3, 10-2A, 12-STP, 13-4, 13-5, 13-6A, 13-6, 13-6B, 13-7, 13-8, 13-SGA</p> <p>13-5, 13-SGA</p> <p>7-6, 7-6B, 7-SGA, 10-2A, 10-2, 10-3A, 10-3, 10-4, 10-ST, 10-SGA, 13-4, 13-ST, 13-6, 13-7, 13-8, 13-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>mathematics and applications including tessellations or fractals, in particular with graphing calculators and geometry software.</p> <p>IV. Geometry of Size</p> <p>A. Measurement</p> <ol style="list-style-type: none"> 1. Find areas of regular polygons and composite figures. 2. Find areas of sectors and arc lengths of circles using proportional reasoning. 3. Develop, extend, use, and prove the Pythagorean theorem. 4. Use formulas for surface area and volume of three-dimensional objects to solve practical problems. 5. Determine the resulting change in the area and volume of a figure when one or more dimension is changed. <p>B. Properties and Relationships</p> <ol style="list-style-type: none"> 1. Based on explorations and using concrete models and geometry software, formulate and test conjectures about <ol style="list-style-type: none"> a. properties of parallel and perpendicular lines, 	<p>10-3A, 10-3, 10-4, 10-ST, 10-5A, 10-5, 10-6, 10-SGA</p> <p>9-2, 9-4, 9-ST, 9-5, 9-6, 9-SGA, 10-6, 11-4</p> <p>1-4, 8-1A, 8-1, 8-2, 8-SGA, 9-5, 11-3, 11-4, 12-6, 13-4</p> <p>11-3, 11-4, 11-ST, 11-5, 11-6A, 11-6, 11-7, 11-SGA</p> <p>2-2, 10-3, 10-4, 11-5, 11-8</p> <p>3-1, 3-2A, 3-2, 3-3, 3-ST, 3-4, 3-5, 3-6, 3-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>including two parallel lines cut by a transversal line,</p> <p>b. properties and attributes of polygons and their component parts, and</p> <p>c. properties and attributes of circles and the lines that intersect them.</p> <p>V. Geometry of Shape</p> <p>A. Similarity</p> <p>1. Identify, describe, and defend similarity between shapes.</p> <p>2. Using similarity and transformations, justify conjectures about geometric figures.</p> <p>3. Utilize ratios to solve problems involving similar figures in a variety of ways, including the use of dynamic, interactive geometry software.</p> <p>4. Solve applied problems using scale modeling.</p> <p>5. Develop, apply, and justify triangle similarity relationships.</p> <p>6. Explore concepts and applications of trigonometry by solving applied problems using right triangle trigonometry.</p>	<p>4-1, 4-2A, 4-2, 4-3, 4-ST, 4-6, 4-SGA, 5-2, 5-4, 5-5A, 5-5, 5-SGA, 6-1A, 6-1, 6-3A, 6-3, 6-ST, 6-4, 6-4B, 6-5, 6-SGA, 8-1A, 8-1, 8-2, 8-SGA, 10-1, 10-SGA</p> <p>9-1, 9-3, 9-ST, 9-5A, 9-5, 9-6, 9-7, 9-8, 9-SGA</p> <p>7-2, 7-3, 7-ST, 7-5, 7-SGA, 11-8</p> <p>7-2, 7-3, 7-ST, 7-5, 7-SGA, 11-8, 13-8, 13-SGA</p> <p>7-2, 7-3, 7-5, 7-SGA, 11-8, 11-SGA</p> <p>7-1, 7-2, 7-5, 7-SGA, 11-8, 11-SGA</p> <p>7-2, 7-3, 7-ST, 7-5, 7-SGA, 11-8, 13-8, 13-SGA</p> <p>8-3, 8-ST, 8-4, 8-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>7. Using graphing calculators, spreadsheets, and dynamic, interactive geometry software, describe the effect on perimeter, area, and volume when length, width, or height of a three-dimensional solid is changed; apply this idea in solving problems.</p> <p>8. Solve problems using proportion involving similar figures.</p> <p>B. Congruence</p> <p>1. Use congruence transformations to make conjectures and justify properties of geometric figures.</p> <p>2. Justify and apply triangle congruence relationships.</p> <p>3. Identify, describe, and defend congruence between shapes.</p>	<p>2-2, 10-3, 10-4, 11-5, 11-8</p> <p>7-2, 7-3, 7-5, 7-SGA, 11-8, 12-2</p> <p>4-3, 10-2A, 12-STP, 13-4, 13-5, 13-6A, 13-6, 13-6B, 13-7, 13-SGA</p> <p>4-6, 4-SGA, 5-1, 5-SGA</p> <p>4-3, 4-ST, 4-4A, 4-4, 4-5, 4-SGA, 5-2, 5-SGA</p>

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correlated to

**SOUTH CAROLINA
MATH CURRICULUM STANDARDS
Mathematics for the Technologies 3**

OBJECTIVES	LESSON REFERENCES
<p>I. Exploration and overview of geometry.</p> <p>A. Develop an awareness of the structure of a mathematical system, connecting definitions and postulates.</p> <p>B. Recognize that the study of geometry was developed for a variety of purposes and has historical significance.</p> <p>C. Explore attributes of geometric figures using constructions with straightedge and compass, paper folding, and dynamic, interactive software.</p>	<p>1-4, 1-5, 1-6, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 3-5, 4-2, 4-3, 4-4, 4-5, 4-6, 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 6-1, 6-2, 6-3, 6-4, 6-5, 7-2, 7-3, 7-4, 7-5, 7-SGA, 8-1, 8-2, 9-2, 9-3, 9-4, 9-5, 9-6, 9-7, 10-1, 10-3, 10-4, 10-6, 11-8, 12-1, 12-6, 13-4, 13-7, 13-8</p> <p>1-1, 1-3, 1-4, 1-6, 2-4, 3-1, 3-6, 4-1, 4-2, 4-4, 4-5, 4-6, 5-1, 5-2, 5-5, 5-6, 6-3, 6-5, 6-SGA, 7-1, 7-2, 7-3, 7-4, 7-6, 8-1A, 8-1, 8-3, 8-4, 8-5, 8-6, 8-SGA, 9-1, 9-3, 9-4, 9-5, 9-6, 9-7, 9-8, 10-1, 10-5, 10-7, 11-1, 11-2, 11-2B, 11-3, 11-ST, 11-6, 11-7, 11-SGA, 12-1, 12-4, 12-5, 13-2, 13-8</p> <p>GAGC, 1-4A, 1-4, 1-5, 1-6, 1-7A, 1-7, 2-1, 2-3, 2-6, 3-2A, 3-3, 3-4, 3-5B, 4-1, 4-2, 4-4A, 4-5, 4-6, 5-1, 5-2, 6-1A, 6-3A, 6-3, 6-4, 6-5, 7-4, 8-1, 8-3, 9-3, 9-4, 9-5A, 9-5, 9-7, 10-3, 10-5, 10-6,</p>

<p>KEY GAGC = Getting Acquainted with the Graphing Calculator SGA = Study Guide and Assessment</p>	<p>ST = Self Test STP = Standardized Test Practice</p>
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OBJECTIVES	LESSON REFERENCES
<p>D. Make and verify conjectures of basic geometric terms.</p> <p>E. Explore the basic transformations (translation, rotation, reflection, and dilation)</p>	<p>11-4, 11-7, 12-4, 13-1, 13-2, 13-3, 13-4, 13-6B</p> <p>2-1, 2-ST, 2-4, 2-5, 2-6, 2-SGA, 3-2A, 3-2, 3-3, 3-4, 3-5, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-SGA, 5-1, 5-2, 5-3, 5-ST, 5-4, 5-5, 5-6, 5-SGA, 6-1A, 6-1, 6-2, 6-3, 6-ST, 6-4, 6-5, 7-3, 7-4, 7-5, 7-6, 8-1, 8-ST, 8-5, 9-3, 9-4, 9-5, 9-6, 9-7, 10-3, 11-8, 12-2, 12-4, 12-5, 12-6, 13-7</p> <p>4-3, 10-2A, 12-STP, 13-4, 13-5, 13-6A, 13-6, 13-6B, 13-7, 13-8, 13-SGA</p>
<p>II. Logical reasoning.</p>	
<p>A. Define and use conditional statements.</p>	<p>2-2, 2-2B, 2-3, 2-ST, 2-4, 2-5, 2-6, 2-SGA</p>
<p>B. Determine the truth value of the converse of a conditional statement.</p>	<p>2-2, 2-ST, 2-SGA, 4-6, 5-4, 8-1, 9-5</p>
<p>C. Use logical reasoning to draw conclusions about geometric figures from given assumptions.</p>	<p>2-3, 2-ST, 2-4, 2-5, 2-6, 2-SGA, 3-2, 3-3, 3-4, 3-5, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-SGA, 5-1, 5-2, 5-3, 5-ST, 5-4, 5-5, 5-6, 5-SGA, 6-1, 6-2, 6-3, 6-ST, 6-4, 6-4B, 6-5, 6-SGA, 7-3, 7-4, 7-5, 8-1, 8-ST, 8-5, 9-3, 9-4, 9-5, 9-6, 9-7, 10-3, 11-8, 12-2, 12-4, 12-5, 12-6, 13-7, 13-8</p>
<p>D. Construct and judge validity of a logical argument consisting of a set of premises and a conclusion.</p>	<p>2-3, 2-ST, 2-4, 2-5, 2-6, 2-SGA, 3-2, 3-3, 3-4, 3-5, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-SGA, 5-1, 5-2, 5-3, 5-ST, 5-4, 5-5, 5-6, 5-SGA, 6-1, 6-2, 6-3, 6-ST, 6-4, 6-5, 6-SGA, 7-3, 7-4, 7-5, 7-6, 8-1, 8-ST, 8-5, 9-3, 9-4, 9-5, 9-6, 9-7, 10-3, 11-8, 12-2, 12-4, 12-5, 12-6, 13-8</p>
<p>E. Use inductive reasoning to formulate a conjecture.</p>	<p>1-SGA, 2-1, 2-3, 2-ST, 2-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>F. Use deductive reasoning to provide an informal proof for a statement.</p> <p>III. Lines and triangles.</p> <p>A. Based on explorations and using concrete models and geometry software, formulate and test conjectures about properties of parallel lines, perpendicular lines, and two parallel lines cut by a transversal line.</p> <p>B. Use numeric and geometric patterns to make generalizations about angle relationships and inequalities in triangles.</p> <p>C. Justify and apply triangle congruence relationships.</p> <p>D. Use congruence transformations to make conjectures about and justify properties of triangles.</p> <p>E. Identify, describe, and defend congruence between shapes.</p> <p>IV. Polygons and quadrilaterals.</p> <p>A. Use numeric and geometric patterns to make generalizations about properties of polygons and angle relationships in polygons.</p>	<p>2-3, 2-ST, 2-4, 2-5, 2-6, 2-SGA, 3-2, 3-3, 3-4, 3-5, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-SGA, 5-1, 5-2, 5-3, 5-ST, 5-4, 5-5, 5-6, 5-SGA, 6-1, 6-2, 6-3, 6-ST, 6-4, 6-5, 6-SGA, 7-3, 7-4, 7-5, 7-6, 8-1, 8-ST, 8-5, 9-3, 9-4, 9-5, 9-6, 9-7, 10-3, 11-8, 12-2, 12-4, 12-5, 12-6, 13-7, 13-8</p> <p>3-1, 3-2A, 3-2, 3-3, 3-ST, 3-4, 3-5, 3-6, 3-SGA</p> <p>4-1, 4-2A, 4-2, 4-6, 5-4, 5-5A, 5-5, 8-2</p> <p>4-6, 4-SGA, 5-1, 5-SGA</p> <p>4-3, 10-2A, 13-4, 13-5, 13-6A, 13-6, 13-6B, 13-7, 13-SGA</p> <p>4-3, 4-ST, 4-4A, 4-4, 4-5, 4-SGA, 5-2, 5-SGA</p> <p>4-1, 4-2A, 4-2, 4-6, 5-1, 5-4, 5-5A, 5-5, 6-1A, 6-1, 6-2, 6-3A, 6-3, 6-4, 6-4B, 6-5, 8-1A, 8-1, 8-2, 8-3, 10-1, 10-2</p>

OBJECTIVES	LESSON REFERENCES
<p>B. Based on explorations and using concrete models and geometry software, formulate and test conjectures about properties and attributes of polygons and their component parts.</p> <p>V. Coordinate geometry.</p> <p>A. Given geometric figures, utilize a coordinate system to identify and justify conjectures.</p> <p>B. Use slopes and equations of lines to investigate geometric relationships of parallel lines, perpendicular lines, special segments of triangles, and special segments of other polygons.</p> <p>C. Develop and use formulas including distance and midpoint.</p> <p>D. Given two ordered pairs, find the distance between them, locate the midpoint, and determine the slope of the line that contains them.</p> <p>E. Plot coordinates for translations, and describe the vertical and horizontal transformational vector(s).</p> <p>VI. Area and perimeter.</p> <p>A. Find areas of regular polygons, composite figures, and circles.</p>	<p>4-1, 4-2A, 4-2, 4-3, 4-ST, 4-6, 4-SGA, 5-2, 5-4, 5-5A, 5-5, 5-SGA, 6-1A, 6-1, 6-3A, 6-3, 6-ST, 6-4, 6-4B, 6-5, 6-SGA, 8-1A, 8-1, 8-2, 8-SGA, 10-1, 10-SGA</p> <p>12-4, 12-SGA, 13-4, 13-5, 13-6, 13-6B, 13-7, 13-8</p> <p>3-3, 3-ST, 3-4, 3-5, 3-SGA, 10-3, 12-1, 12-2A, 12-2, 12-3, 12-ST</p> <p>1-4, 1-5, 1-6, 1-SGA, 3-5, 4-1, 4-4, 6-2, 6-3, 6-4, 7-2, 7-4, 9-8, 10-3, 12-4, 12-5, 12-6, 13-4</p> <p>1-4, 1-5, 1-6, 1-SGA, 3-3, 3-4, 3-5, 3-SGA, 4-1, 4-4, 6-2, 6-3, 6-4, 7-2, 7-4, 9-8, 10-3, 12-1, 12-4, 12-5, 12-6, 13-4</p> <p>4-3, 10-2A, 13-4, 13-6, 13-6B, 13-7, 13-SGA</p> <p>10-3A, 10-3, 10-4, 10-ST, 10-5A, 10-5, 10-6, 10-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>B. Using graphing calculators, spreadsheets, and dynamic, interactive geometry software, determine and describe the resulting change in the area and perimeter when one or more dimensions is changed, and apply this idea in solving problems.</p>	<p>1-3, 7-5, 10-3, 10-4</p>
<p>VII. Three-dimensional figures.</p> <p>A. Use numeric and geometric patterns to make generalizations about solid figures.</p> <p>B. Draw, examine, and classify cross sections of three-dimensional objects.</p> <p>C. Construct a three-dimensional object using a two-dimensional diagram, such as a blueprint or pattern.</p> <p>D. Use top, front, side, and corner views of three-dimensional objects to create accurate and complete representations and solve problems.</p> <p>E. Represent a three-dimensional object in two dimensions using graph or dot paper.</p> <p>F. Use formulas for surface area and volume of three-dimensional objects to solve practical problems.</p> <p>G. Using graphing calculators, spreadsheets, and dynamic,</p>	<p>11-1A, 11-1B, 11-2, 11-2B, 11-3, 11-4, 11-5, 11-6A, 11-6, 11-7, 11-8</p> <p>11-1</p> <p>11-1, 11-2, 11-4, 11-5, 11-6A</p> <p>11-1, 11-2, 11-ST, 11-5, 11-SGA</p> <p>11-1, 11-2, 11-3, 11-ST, 11-SGA</p> <p>11-3, 11-4, 11-ST, 11-5, 11-6A, 11-6, 11-7, 11-SGA</p> <p>2-2, 11-5, 11-7, 11-8</p>

OBJECTIVES	LESSON REFERENCES
<p>interactive geometry software, determine and describe the resulting change in volume when one or more dimensions is changed.</p> <p>VIII. Similarity.</p> <p>A. Use numeric and geometric patterns to make generalizations about ratios in similar figures.</p> <p>B. Identify, describe, and defend similarity between shapes.</p> <p>C. Justify conjectures about geometric figures using similarity and transformations.</p> <p>D. Utilize ratios to solve problems involving similar figures in a variety of ways, including the use of dynamic, interactive geometry software.</p> <p>E. Solve applied problems using scale modeling.</p> <p>F. Solve problems using properties involving similar figures.</p> <p>IX. Right triangles.</p> <p>A. Develop, extend, and use the Pythagorean Theorem.</p> <p>B. Identify and use the right triangle theorems for 45°-45°-90° triangles and 30°-60°-90° triangles.</p>	<p>7-2, 7-3, 7-5, 7-6, 7-SGA, 11-8, 13-8, 13-SGA</p> <p>7-2, 7-3, 7-ST, 7-5, 7-SGA, 11-8</p> <p>7-2, 7-3, 7-ST, 7-5, 7-SGA, 11-7, 13-8, 13-SGA</p> <p>7-2, 7-3, 7-5, 7-SGA, 11-8, 11-SGA</p> <p>7-1, 7-2, 7-5, 7-SGA, 11-8, 11-SGA</p> <p>7-2, 7-3, 7-5, 7-SGA, 11-8, 13-8, 13-SGA</p> <p>1-4, 8-1A, 8-1, 8-2, 8-SGA, 9-5, 11-3, 11-4, 12-6, 13-4</p> <p>8-2, 8-SGA</p>

OBJECTIVES	LESSON REFERENCES
<p>C. Explore concepts and applications of trigonometry by solving applied problems, using right triangle trigonometry (sine, cosine, tangent).</p> <p>X. Circles.</p> <p>A. Use numeric and geometric patterns to make generalizations about circles.</p> <p>B. Find areas of sectors and arc lengths of circles using proportional reasoning.</p> <p>C. Based on explorations and using concrete models and geometry software, formulate and test conjectures about properties and attributes of circles and the lines that intersect them.</p>	<p>8-3, 8-ST, 8-4, 8-SGA</p> <p>9-1, 9-2, 9-3, 9-4, 9-5A, 9-5, 9-6, 9-7</p> <p>9-2, 9-4, 9-ST, 9-5, 9-6, 9-SGA, 10-6, 11-4</p> <p>9-1, 9-3, 9-ST, 9-5A, 9-5, 9-6, 9-7, 9-8, 9-SGA</p>