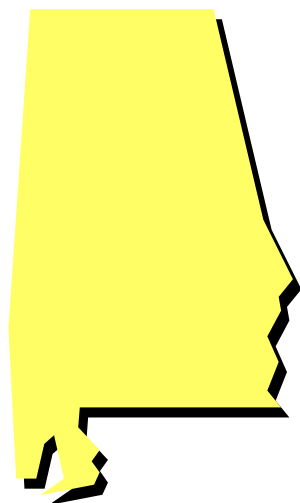
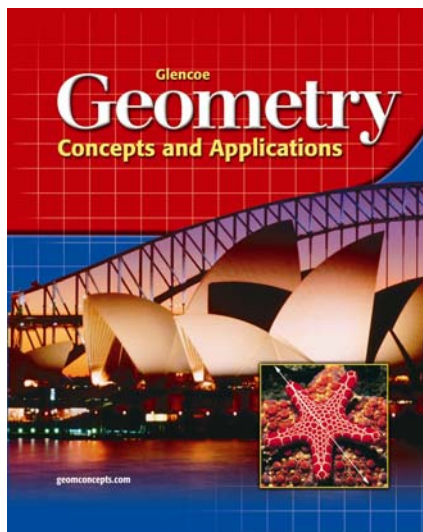


# Glencoe/McGraw-Hill

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**correlated to**

**Alabama Course of Study:  
Geometry**

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GEOMETRY: CONCEPTS AND APPLICATIONS ©2004**

**CORRELATED TO**

**ALABAMA  
COURSE OF STUDY: GEOMETRY**

OBJECTIVES	PAGE REFERENCES
Algebra	
Students will:	
1. Determine the equation of a line parallel or perpendicular to a second line through a given point.	SE: 174–179 TWE: 174–179
Geometry	
2. Justify theorems related to pairs of angles, including angles formed by parallel and perpendicular lines, vertical angles, adjacent angles, complementary angles, and supplementary angles.	SE: 110–113, 116–121, 128–133, 148–153, 156–159 TWE: 110–113, 116–121, 128–133, 148–153, 156–159
3. Verify the relationships among different classes of polygons by using their properties.	
<ul style="list-style-type: none"> <li>• Determining the missing lengths of sides or measures of angles in similar polygons</li> </ul>	SE: 356–361, 362–367, 368–373, 388–393, 432–433 TWE: 356–361, 362–367, 368–373, 388–393, 432–433
4. Determine the measure of interior and exterior angles associated with polygons.	
<ul style="list-style-type: none"> <li>• Verifying the formulas for the measures of interior and exterior angles of polygons inductively and deductively</li> </ul>	SE: 193–195, 282–285, 288–289, 312–313, 318, 329, 335, 408–412 TWE: 193–195, 282–285, 288–289, 312–313, 318, 329, 335, 408–412
5. Solve real-life and mathematical problems using properties and theorems related to circles, quadrilaterals, and other geometric shapes.	
<ul style="list-style-type: none"> <li>• Determining the equation of a circle given its center and radius</li> </ul>	SE: 35–38, 258, 277–279, 282, 292, 298, 333, 480, 618–622 TWE: 35–38, 258, 277–279, 282, 292, 298, 333, 480, 618–622

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<b>OBJECTIVES</b>	<b>PAGE REFERENCES</b>
6. Apply the Pythagorean Theorem to solve application problems, expressing answers in simplified radical form or as decimal approximations, using Pythagorean triples when applicable.	SE: 256–261, 268, 270, 292, 388, 432, 470, 506, 524, 559, 577, 593–594  TWE: 256–261, 268, 270, 292, 388, 432, 470, 506, 524, 559, 577, 593–594
7. Use the ratios of the sides of special right triangles to find lengths of missing sides.	
<ul style="list-style-type: none"> <li>• Deriving the ratios of the sides of 30–60–90 and 45–45–90 triangles</li> </ul>	SE: 554–558, 559–563  TWE: 554–558, 559–563
8. Deduce relationships between two triangles, including proving congruence or similarity of the triangles from given information, using them to solve problems and to establish other relationships.	
<ul style="list-style-type: none"> <li>• Determining the geometric mean to find missing lengths in right triangles</li> </ul>	SE: 203–205, 208–209, 210–213, 215–217, 251–253, 355–358, 362–365, 368–371, 388–390  TWE: 203–205, 208–209, 210–213, 215–217, 251–253, 355–358, 362–365, 368–371, 388–390
9. Use inductive reasoning to make conjectures and deductive reasoning to justify conclusions.	
<ul style="list-style-type: none"> <li>• Recognizing the limitations of justifying a conclusion through inductive reasoning</li> </ul>	SE: 4–9, 458, 631, 640–642  TWE: 4–9, 458, 631, 640–642
10. Find the missing measures of sides and angles in right triangles by applying the right triangle definitions of sine, cosine, and tangent.	SE: 564–569, 572–577  TWE: 564–569, 572–577
11. Determine the areas and perimeters of regular polygons, including inscribed or circumscribed polygons, given the coordinates of vertices or other characteristics.	SE: 419–423, 425–431  TWE: 419–423, 425–431

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<b>OBJECTIVES</b>	<b>PAGE REFERENCES</b>
12. Apply distance, midpoint, and slope formulas to solve problems and to confirm properties of polygons.	The opportunity to address this objective is available on the following pages:  SE: 402–407, 408–412  TWE: 402–407, 408–412
13. Identify the coordinates of the vertices of the image of a given polygon that is translated, rotated, reflected, or dilated.	SE: 198–203, 207, 214, 221, 223, 225, 321, 687–691, 703–707, 712  TWE: 198–203, 207, 214, 221, 223, 225, 321, 687–691, 703–707, 712
14. Classify polyhedrons according to their properties, including the number of faces.	
<ul style="list-style-type: none"> <li>• Identifying Euclidean solids</li> </ul>	The opportunity to address this objective is available. See the following:  SE: 496–501  TWE: 496–501
Measurement	
15. Calculate measures of arcs and sectors of a circle from given information.	SE: 462–467, 468–473, 484–487, 490, 544, 591  TWE: 462–467, 468–473, 484–487, 490, 544, 591
16. Calculate surface areas and volumes of solid figures, including spheres, cones, and pyramids.	
<ul style="list-style-type: none"> <li>• Developing formulas for surface area and volume of spheres, cones, and pyramids</li> </ul>	SE: 516–521, 522–527, 528–533, 541–543  TWE: 516–521, 522–527, 528–533, 541–543
<ul style="list-style-type: none"> <li>• Calculating specific missing dimensions of solid figures from surface area or volume</li> </ul>	SE: 534–539  TWE: 534–539
<ul style="list-style-type: none"> <li>• Determining the relationship between the surface areas of similar figures and volumes of similar figures</li> </ul>	SE: 534–539  TWE: 534–539

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<b>OBJECTIVES</b>	<b>PAGE REFERENCES</b>
Data Analysis and Probability	
17. Analyze sets of data from geometric contexts to determine what, if any, relationships exist.	
<ul style="list-style-type: none"><li>• Distinguishing between conclusions drawn when using deductive and statistical reasoning</li></ul>	SE: 638–643 TWE: 638–643
<ul style="list-style-type: none"><li>• Calculating probabilities arising in geometric contexts</li></ul>	SE: 438, 484, 486–487 TWE: 438, 484, 486–487
18. Construct with precision a circle graph to represent data from given tables or classroom experiments.	SE: 89, 225 TWE: 89, 225

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