

# 801 Geometry

## Chapter 1 Essentials of Geometry

- 1.1 Identify Points, Lines, and Planes
- 1.2 Use Segments and Congruence
- 1.3 Use Midpoint and Distance Formulas
- 1.4 Measure and Classify Angles.
- 1.5 Describe Angle Pair Relationships
- 1.6 Classify Polygons
- 1.7 Find Perimeter, Circumference, and Area

## Chapter 2 Reasoning and Proof

- 2.1 Use Inductive Reasoning
- 2.2 Analyze Conditional Statements
- 2.3 Apply Deductive Reasoning
- 2.4 Use Postulates and Diagrams
- 2.5 Reason Using Properties from Algebra
- 2.6 Prove Statements about Segments and Angles
- 2.7 Prove Angle Pair Relationships

## Chapter 3 Parallel and Perpendicular Lines

- 3.1 Identify Pairs of Lines and Angles
- 3.2 Use Parallel Lines and Transversals
- 3.3 Prove Lines are Parallel

- 3.4 Find and Use Slopes of Lines
- 3.5 Write and Graph Equations of Lines
- 3.6 Prove Theorems about Perpendicular Lines

## **Chapter 4 Congruent Triangles**

- 4.1 Apply Triangle Sum Properties
- 4.2 Apply Congruence and Triangles
- 4.3 Prove Triangles Congruent by SSS.
- 4.4 Prove Triangles Congruent by SAS and HL
- 4.5 Prove Triangles Congruent by ASA and AAS
- 4.6 Use Congruent Triangles
- 4.7 Use Isosceles and Equilateral Triangles
- 4.8 Perform Congruence Transformations

## **Chapter 5 Relationships within Triangles**

- 5.1 Midsegment Theorem and Coordinate Proof 295
- 5.2 Use Perpendicular Bisectors
- 5.3 Use Angle Bisectors of Triangles
- 5.4 Use Medians and Altitudes
- 5.5 Use Inequalities in a Triangle
- 5.6 Inequalities in Two Triangles and Indirect Proof

## **Chapter 6 Similarity**

- 6.1 Ratios, Proportions, and the Geometric Mean
- 6.2 Use Proportions to Solve Geometry Problems

- 6.3 Use similar Polygons
- 6.4 Prove Triangles Similar by AA
- 6.5 Prove Triangles Similar by SSS and SAS
- 6.6 Use Proportionality Theorems
- 6.7 Perform Similarity Transformations

## **Chapter 7 Right Triangles and Trigonometry**

- 7.1 Apply the Pythagorean Theorem
- 7.2 Use the Converse of the Pythagorean Theorem
- 7.3 Use Similar Right Triangles
- 7.4 Special Right Triangles
- 7.5 Apply the Tangent Ratio
- 7.6 Apply the Sine and Cosine Ratios
- 7.7 Solve Right Triangles

## **Chapter 8 Quadrilaterals**

- 8.1 Find Angle Measures in Polygons
- 8.2 Use Properties of Parallelograms
- 8.3 Show that a Quadrilateral is a Parallelogram
- 8.4 Properties of Rhombuses, Rectangles, and Squares
- 8.5 Use Properties of Trapezoids and Kites
- 8.6 Identify Special Quadrilaterals

## **Chapter 9 Properties of Transformations**

- 9.1 Translate Figures and Use Vectors

- 9.2 Use Properties of Matrices
- 9.3 Perform Reflections
- 9.4 Perform Rotations
- 9.5 Apply Compositions of Transformations
- 9.6 Identify Symmetry
- 9.7 Identify and Perform Dilations

## **Chapter 10 Properties of Circles**

- 10.1 Use Properties of Tangents
- 10.2 Find Arc Measures
- 10.3 Apply Properties of Chords
- 10.4 Use Inscribed Angles and Polygons
- 10.5 Apply Other Angle Relationships in Circles
- 10.6 Find Segment Lengths in Circles
- 10.7 Write and Graph Equations of Circles

## **Chapter 11 Measuring Length and Area**

- 11.1 Areas of Triangles and Parallelograms
- 11.2 Areas of Trapezoids, Rhombuses, and Kites
- 11.3 Perimeter and Area of Similar Figures
- 11.4 Circumference and Arc Length
- 11.5 Areas of Circles and Sectors
- 11.6 Areas of Regular Polygons
- 11.7 Use Geometric Probability

## **Chapter 12 Surface Area and Volume of Solids**

12.1 Explore Solids

12.2 Surface Area of Prisms and Cylinders

12.3 Surface Area of Pyramids and Cones

12.4 Volume of Prisms and Cylinders

12.5 Volume of Pyramids and Cones

12.6 Surface Area and Volume of Spheres

12.7 Explore Similar Solids