

Academy of the Holy Angels
STUDY GUIDE FOR ALGEBRA II

ESSENTIALS OF GEOMETRY

- 1: Identify Points, Lines, and Planes
- 2: Use Segments and Congruence
- 3: Use Midpoint and Distance Formulas
- 4: Measure and Classify Angles
- 5: Describe Angle Pair Relationships
- 6: Classify Polygons

REASONING AND PROOF

- 1: Use Inductive Reasoning
- 2: Analyze Conditional Statements
- 3: Apply Deductive Reasoning
- 4: Use Postulates and Diagrams
- 5: Reason Using Properties from Algebra
- 6: Prove Statements about Segments and Angles
- 7: Prove Angle Pair Relationships

PARALLEL AND PERPENDICULAR LINES

- 1: Identify Pairs of Lines and Angles
- 2: Use Parallel Lines and Transversals
- 3: Prove Lines are Parallel
- 4: Find and Use Slopes of Lines
- 5: Write and Graph Equations of Lines

6: Prove Theorems about Perpendicular Lines

CONGRUENT TRIANGLES

- 1: Apply Triangle Sum Properties
- 2: Apply Congruence and Triangles
- 3: Relate Transformations and Congruence
- 4: Prove Triangles Congruent by SSS
- 5: Prove Triangles Congruent by SAS and HL
- 6: Prove Triangles Congruent by ASA and AAS
- 7: Use Congruent Triangles
- 8: Use Isosceles and Equilateral Triangles
- 9: Perform Congruence Transformations

RELATIONSHIPS WITHIN TRIANGLES

- 1: Midsegment Theorem and Coordinate Proof
- 2: Use Perpendicular Bisectors
- 3: Use Angle Bisectors of Triangles
- 4: Use Medians and Altitudes
- 5: Use Inequalities in a Triangle
- 6: Inequalities in Two Triangles and Indirect Proof

SIMILARITY

- 1: Use Similar Polygons
- 2: Prove Triangles Similar by AA
- 3: Prove Triangles Similar by SSS and SAS

4: Use Proportionality Theorems

RIGHT TRIANGLES AND TRIGONOMETRY

- 1: Apply the Pythagorean Theorem
- 2: Use the Converse of the Pythagorean Theorem
- 3: Use Similar Right Triangles
- 4: Special Right Triangles
- 5: Apply the Tangent Ratio
- 6: Apply the Sine and Cosine Ratios
- 7: Solve Right Triangles

QUADRILATERALS

- 1: Find Angle Measures in Polygons
- 2: Use Properties of Parallelograms
- 3: Show that a Quadrilateral is a Parallelogram
- 4: Properties of Rhombuses, Rectangles, and Squares
- 5: Use Properties of Trapezoids and Kites
- 6: Identify Special Quadrilaterals

PROPERTIES OF CIRCLES

- 1: Use Properties of Tangents
- 2: Find Arc Measures
- 3: Apply Properties of Chords
- 4: Use Inscribed Angles and Polygons
- 5: Apply Other Angle Relationships in Circles

6: Find Segment Lengths in Circles

7: Write and Graph Equations of Circles

MEASUREMENT OF FIGURES AND SOLIDS

1: Circumference and Arc Length

2: Areas of Circles and Sectors

3: Areas of Regular Polygons

4: Use Geometric Probability

5: Explore Solids

6: Volume of Prisms and Cylinders

7: Volume of Pyramids and Cones

8: Surface Area and Volume of Spheres