

Geometry

- I. Points, Lines, Planes, and Angles
 - a. Pointes, Lines, and Planes
 - b. Linear Measure and Precision
 - c. Distance and Midpoints
 - d. Angle Measure
 - e. Angle Relationships
 - f. Polygons

- II. Reasoning and Proof
 - a. Inductive Reasoning and Conjecture
 - b. Logic
 - c. Conditional Statements
 - d. Deductive Reasoning
 - e. Postulates and Paragraph Proofs
 - f. Algebraic Proof
 - g. Proving Segment Relationships
 - h. Proving Angle Relationships

- III. Parallel and Perpendicular Lines
 - a. Parallel Lines and Transversals
 - b. Angles and Parallel Lines
 - c. Slopes of Lines
 - d. Equations of Lines
 - e. Proving Lines Parallel
 - f. Perpendiculars and Distance

- IV. Congruent Triangles
 - a. Classifying Triangles
 - b. Angles of Triangles
 - c. Congruent Triangles
 - d. Proving Congruence- SSS, SAS
 - e. Proving Congruence- ASA, AAS
 - f. Isosceles Triangles
 - g. Triangles and Coordinate Proof

- V. Relationships in Triangles
 - a. Bisectors, Medians, and Altitudes
 - b. Inequalities and Triangles
 - c. Indirect Proof
 - d. The Triangle Inequality
 - e. Inequalities Involving Two Triangles

VI. Proportions and Similarity

- a. Proportions
- b. Similar Polygons
- c. Similar Triangles
- d. Parallel Lines and Proportional Parts
- e. Parts of Similar Triangles
- f. Fractals and Self-Similarity

VII. Right Triangles and Trigonometry

- a. Geometric Mean
- b. The Pythagorean Theorem and Its Converse
- c. Special Right Triangles
- d. Trigonometry
- e. Angles of Elevation and Depression
- f. The Law of Sines
- e. The law of Cosines

VIII. Quadrilaterals

- a. Angles of Polygons
- b. Parallelograms
- c. Tests of Parallelograms
- d. Rectangles
- e. Rhombi and Squares
- f. Trapezoids
- g. Coordinate Proof and Quadrilaterals

IX. Transformations

- a. Reflections
- b. Translations
- c. Rotations
- d. Tessellations
- e. Dilations
- f. Vectors
- g. Transformations with Matrices

X. Circles

- a. Circles
- b. Angles and Arcs
- c. Arcs and Chords
- d. Inscribed Angles
- e. Tangents
- f. Secants, Tangents, and Angle Measures
- g. Special Segments in a Circle
- h. Equations of Circles

XI. Areas of Polygons and Circles

- a. Areas of Parallelograms
- b. Areas of Triangles, Trapezoids, and Rhombi
- c. Areas of Regular Polygons and Circles
- d. Areas of Irregular Figures
- e. Geometric Probability

XII. Surface Area

- a. Three-Dimensional Figures
- b. Nets and Surface Area
- c. Surface Areas of Prisms
- d. Surface Area of Cylinders
- e. Surface Area of Pyramids
- f. Surface Area of Cones
- g. Surface Area of Spheres

XIII. Volume

- a. Volumes of Prisms and Cylinders
- b. Volumes of Pyramids and Cones
- c. Volumes of Spheres
- d. Congruent and Similar Solids
- e. Coordinates in Space