

Geometry Course Information

Overview: In Geometry, students use a much different type of thinking than what they are used to up to this point. Fundamentally, Geometry is the study of shapes and their properties. However, students regularly use higher order thinking skills when proving theorems and thinking through complex problems. Additionally, students often work together to prove geometric theorems.

Scope and Sequence: The course is broken down into chapters. Below are the primary concepts from each chapter. **Note: This is not a complete list of course content.**

- **Chapter 1:** Coordinate Plane, Points, Lines and Planes, Midpoints, Angle Relationships
- **Chapter 2:** Types of Reasoning, Logic Basics, Segment/Angle Relationships
- **Chapter 3:** Parallel Lines, Proofs with Parallel Lines, Distances with Points and Lines
- **Chapter 4:** Angles in Triangles, Congruent Triangle Properties and Proofs
- **Chapter 5:** Indirect Proofs, Triangle Inequalities, Right Triangles
- **Chapter 6:** Parallelograms, Rectangles, Squares, Trapezoids, Quadrilateral Proofs
- **Chapter 7:** Proportions, Similar Polygons, Proportionality, Fractals
- **Chapter 8:** Pythagorean Theorem, Special Right Triangles, Trigonometric Ratios
- **Chapter 9:** Angles, Arcs and Chords of Circles, Tangents, Special Circle Segments
- **Chapter 10:** Tessellations, Transformations, Area of Polygons and Circles
- **Chapter 11:** Nets, Surface Area, Volume, Similar and Congruent Solids, Spheres
- **Miscellaneous Content:** Locus and Coordinate Geometry

Assignments/Homework: Assignments are usually about 15-20 problems and should take around 45 mins. to complete. Upon completion, assignments are to be corrected by the student and reviewed to determine what (if any) questions the student has going into the next class.

Quizzes and Tests: Regular quizzes are taken online and students receive instant feedback on how they did. Quizzes are meant to be taken without books, notes, or other forms of help. Formal tests are taken via the traditional “paper and pencil” format. They are then turned in for correction by the teacher.

Materials/Supplies:

- Students are expected to take notes during class. A binder or notebook typically works the best.
- Graph paper
- Scientific calculator
- Ruler/straightedge
- Compass
- Scanner