

Texas High School Geometry Syllabus

Instructor: Mr. Edwards

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Room Number: 307

Course Overview

Geometry is a fundamental math course that aligns with the Carnegie Math curriculum. This course explores the properties and applications of geometric figures, theorems, and proofs, and emphasizes logical reasoning and problem-solving skills. The goal is to build a solid understanding of geometric concepts and their real-world applications.

Course Objectives

By the end of this course, students will be able to:

1. Understand and apply geometric properties and theorems involving lines, angles, triangles, and polygons.
2. Solve problems involving circles, including their properties and applications.
3. Analyze and prove geometric relationships and congruence.
4. Understand and apply concepts of similarity and geometric transformations.
5. Use coordinate geometry to solve problems involving geometric figures.

Required Materials

- Textbook: Carnegie Math Geometry (Provided)
- Notebook Paper
- Folder with pockets and brads
- Scientific Calculator (TI-84 or similar) (Provided)

Course Content

1. Basics of Geometry

- **Introduction to Geometry:** Understanding points, lines, planes, and angles.
- **Basic Constructions:** Using a compass and straightedge for geometric constructions.

2. Reasoning and Proof

- **Logic and Proof:** Introduction to logical reasoning, definitions, postulates, and theorems.
- **Proof Techniques:** Writing and understanding geometric proofs, including two-column proofs.

3. Parallel and Perpendicular Lines

- **Properties of Parallel Lines:** Understanding angles formed by parallel lines and transversals.
- **Properties of Perpendicular Lines:** Exploring the relationships and properties of perpendicular lines.

4. Triangles

- **Triangle Properties:** Understanding the properties of different types of triangles.
- **Congruence and Similarity:** Proving triangles congruent and similar using various criteria.
- **Triangle Inequality Theorem:** Analyzing the relationships between the sides and angles of triangles.

5. Quadrilaterals and Polygons

- **Properties of Quadrilaterals:** Exploring the properties and classifications of quadrilaterals.
- **Polygons:** Understanding the properties of polygons, including interior and exterior angles.

6. Circles

- **Circle Properties:** Analyzing the properties of circles, including chords, tangents, and arcs.
- **Circle Theorems:** Understanding theorems related to angles and segments in circles.

7. Geometric Transformations

- **Transformations:** Exploring translations, rotations, reflections, and dilations.
- **Similarity and Congruence:** Applying transformations to solve problems involving similarity and congruence.

8. Coordinate Geometry

- **Coordinate Plane:** Using the coordinate plane to solve geometric problems.
- **Distance and Midpoint Formulas:** Applying these formulas to find distances and midpoints between points.
- **Geometric Figures on the Coordinate Plane:** Analyzing geometric figures and their properties using coordinates.

9. Area and Volume

- **Area of Shapes:** Calculating the area of various geometric shapes, including triangles, rectangles, and polygons.
- **Volume and Surface Area:** Finding the volume and surface area of three-dimensional figures such as prisms, cylinders, cones, and spheres.

Grading Policy

Daily Grades (60%):

- **Homework (30%):** Homework assignments will be given regularly and must be completed on time. Late work will incur a penalty unless prior arrangements are made.
- **Classwork (30%):** Participation in class activities, group work, and daily exercises will be assessed.
- **Recording:** There will be a minimum of 6 daily grades recorded every 6 weeks.

Test Grades (40%):

- **Tests (40%):** There will be three major tests each grading period, covering the material studied. Each test will contribute to the overall grade.
- **Recording:** There will be a minimum of 3 test grades recorded every 6 weeks.

Attendance and Participation

- Regular attendance is crucial for success in Geometry. Excessive absences may impact understanding of the material and overall grade.
- Active participation in class discussions and activities is expected. This will contribute to your daily grades.

Classroom Policies

- **Respect:** Respect for classmates, instructor, and classroom materials is required.
- **Electronics:** Phones and other electronic devices should be silenced and put away unless instructed otherwise.
- **Late Work:** Assignments turned in late will be penalized unless a valid excuse is provided.

Support and Resources

- **Tutoring:** Extra help is available during scheduled times or by appointment. Additional tutoring sessions may be scheduled as needed.

Important Dates

- **End of First Six Weeks:** Sept. 19, 2025
- **End of Second Six Weeks:** Oct. 31, 2025
- **End of Third Six Weeks:** Dec. 19, 2025
- **End of Fourth Six Weeks:** Feb. 13, 2026
- **End of Fifth Six Weeks:** Apr. 2, 2026
- **End of Sixth Six Weeks:** May 20, 2026

Note: This syllabus is subject to change based on the needs of the class and other factors. Any changes will be communicated promptly.