

# Geometry

**Instructor:**

Mrs. Shephard  
shepharda@graceacademyapps.org

**Time and Location:**

Semester One (2011-2012): Second and Third Period  
Room 26 (Science Lab)

**Course Overview:**

Welcome to Geometry! Geometry is important for two reasons. First, a thorough understanding of the principles of geometry is important to a wide range of scientific and technological fields of study such as engineering, physics, and cartography. Since ancient times, surveyors have used geometric principles to map the earth's surface. Global positioning systems (GPS) incorporate geometric principles for a similar purpose. And you wouldn't want to drive over a bridge designed by an engineer with no understanding of geometry!

Second, the study of geometry sharpens thinking skills by teaching the process of deductive reasoning. We often use deductive reasoning unconsciously in our daily lives to make decisions and judgments about the world around us. In mathematics and the sciences, where nothing is considered true until it is proved, deductive reasoning is an important tool.

**Prerequisites:**

Algebra 1

**Enduring Understandings (Objectives):**

- Identify classes of lines, their properties and angles formed.
- Identify and analyze the properties of two and three-dimensional objects.
- Investigate relationships including similarity and congruence among classes of two and three-dimensional shapes.
- Construct geometric shapes by hand and using technology.
- Use deductive and inductive reasoning.
- Explore and determine a variety of measures including area, circumference, volume, angle measure, distance, and midpoint.
- Use transformations to move figures.
- Solve problems in geometry using two-dimensional figures and right-triangle trigonometry.

**Areas of Study:**

- Tools of Geometry
- Reasoning and Proof
- Parallel and Perpendicular Lines
- Congruent Triangles

- Relationships in Triangles
- Quadrilaterals
- Proportions and Similarity
- Right Angles and Trigonometry
- Transformations
- Circles
- Areas of Polygons and Circles
- Surface Area and Volume of Three-Dimensional Objects

**Assessments**

Grades will be based on homework assignments, classwork, notebooks, quizzes, chapter and unit tests, and a final exam.

Edline will be used to communicate grades to students and parents. Assignments will also be posted on Edline.

**Required Student Materials:**

The following materials should be brought to class **every** day.

Textbook: Glencoe Mathematics Geometry (2008 edition)

Class notebook or binder.

Graph paper

Scientific Calculator

Protractor and Compass

Pencils, Eraser, and Red Marking Pen

**Attendance Policy:**

Your attendance and participation in each unit and lesson of this course is crucial. If you miss class, the Grace Academy student policies will apply.

**Expectations:**

Students are expected to:

- Be on time to class. Please sharpen pencils, go to lockers or restroom etc between bells.
- Bring required materials to class.
- Be prepared to discuss any assigned readings or homework.
- Complete homework assignments on time.

Please feel free to contact me via email or call me at the school if you have any questions or concerns. I appreciate your support and look forward to a very productive semester!

Parent Signature: \_\_\_\_\_

Parent E-mail: \_\_\_\_\_

Student Signature: \_\_\_\_\_

Student E-mail: \_\_\_\_\_