

# Geometry Part A

## Semester Long Course

**Prerequisites: Algebra 1**

### Course Materials

**Your online school will provide the following materials:**

- [Flash Player](#)
  - In order to view the activities in the Examples and Practice content items, you will need to have the current Flash player installed on your computer.
- **SAS Curriculum Pathways**
  - Curriculum Pathways is a supplemental web resource that we will be using in this course.
- **Geometer's Sketchpad Instructions**
  - The Geometer's Sketchpad is a software program that we will be using in the course.

**You are expected to supply:**

- A word processing program (Word Pad or TextEdit is sufficient).
- Plenty of paper for computer printing.
- 1—two inch, three-ring binder to serve as your Geometry notebook.
- 1—set of subject separators/tabs for your notebook , one for each module.
- 1—blank disk for saving your work or you can create a folder on your hard drive to save your assignments.
- A protractor.
- A compass.
- A tape measure for some project type assignments.
- Tissue paper or wax paper for some activities.
- Index cards

### Course Objectives

Content will include, but is not limited to, the following:

- geometric constructions
- terminology and fundamental properties of geometry
- deductive and inductive reasoning and their application to formal an informal proof
- formulas pertaining to the measurement of plane and solid figures
- coordinate geometry and transformations on the coordinate plane

- exploration of geometric relationships such as parallelism, perpendicularity, congruence, and similarity
- properties of circles
- right triangle trigonometry

## Course Outline

### Scope and Sequence of Geometry Part A

- Module 1:
  - Undefined Terms of Geometry
  - Mathematical Language
  - Segments
  - Segments and the Coordinate Plane
  - Exploring Angles
  - Angle Addition Postulate
  - Angle Bisectors
  - Angle Relationships
  - How to Use a Compass
  - How to Use a Protractor
  - Dimensionality
- Module 2:
  - Lines and Angle Pairs
  - Properties of Parallel Lines
  - Slope
  - Linear Equations
  - Writing Equations of Lines
  - Logical Reasoning
  - Algebraic Properties
  - Algebraic Proofs
  - Proving Lines Parallel
  - Perspective Drawing
- Module 3:
  - Introduction to Geometer's Sketchpad
  - Classifying Triangles
  - Interior and Exterior Angles in a Triangle
  - Properties of Isosceles Triangles
  - Triangle Inequalities
  - Proofs in Geometry
  - Exploring Triangle Congruence
  - Congruence in Right Triangles

- Module 4:
  - Midsegments of Triangles
  - Perpendicular Bisectors
  - Medians and Altitudes
  - Angle Bisectors
  - Similar Polygons
  - Similarity in Right Triangles
  - Proportions
  - Applications of the Pythagorean Theorem
  - Trigonometric Ratios
  - Scale Drawing