

Clarkston Junior High School: Honors Geometry

Level of Difficulty	Prerequisites
☐ Moderate ☐ Difficult ☐ Very Difficult	Algebra 1 (We also suggest a “B” average in Algebra 1. Students with less than a “B” average in Algebra 1 may be less successful in Geometry and beyond. We recommend repeating Algebra 1 to build a stronger foundation.)

Course Description

This course will address the Geometry Common Core State Standards (core-standards.org). A TI-84 Plus graphing calculator is highly recommended for this course.

Course content will include:

Congruence

- Experiment with transformations in the plane
- Understand congruence in terms of rigid motions
- Prove geometric theorems
- Make geometric constructions

Similarity, Right Triangles, and Trigonometry

- Understand similarity in terms of similarity transformations
- Prove theorems involving similarity
- Define trigonometric ratios and solve problems involving right triangles
- Apply trigonometry to general triangles

Circles

- Understand and apply theorems about circles
- Find arc lengths and areas of sectors of circles

Expressing Geometric Properties with Equations

- Translate between the geometric description and the equation for a conic section
- Use coordinates to prove simple geometric theorems algebraically

Geometric Measurement and Dimension

- Explain volume formulas and use them to solve problems
- Visualize relationships between two-dimensional and three-dimensional objects

Modeling with Geometry

- Apply geometric concepts in modeling situations