



RADNOR TOWNSHIP SCHOOL DISTRICT  
**Course Overview**  
Honors Geometry- Grade 9



### **General Information**

Prerequisite: **8th Grade Algebra I with a "B" or teacher recommendation**  
Length: Full Year  
Format: meets daily for one period

### **Course Description**

This course uses a disciplined approach to traditional Geometry, integrating the concepts and skills of the student's previous Algebra 1 course. Students in Honors Geometry apply geometric concepts to solve problems, use two-column proofs to establish relationships among triangles and parts of triangles, apply similarity theorems to geometric figures, relate knowledge of parallel and perpendicular lines to solve practical problems, combine algebraic and geometric skills to solve perimeter, area and volume problems, and apply skills involving trigonometry and transformational geometry.

### **Course Objectives:**

#### **Student Objectives**

Write conditional statements in if-then form  
Write the converse, inverse and contrapositive of a conditional statement  
Determine if the conditional statement is true  
Write biconditional statements for definitions  
Interpret diagrams  
Determine if certain idea can be assumed from a diagram  
Use algebraic properties of equality to solve linear equations  
Use distributive property in solving linear equations  
Identify reflexive, symmetric and transitive properties  
Identify points, lines, and planes  
Use segment addition postulate and congruence  
Use the midpoint formula  
Use the distance formula  
Classify angles and use the angle addition postulate  
Describe angle pair relationships  
Classify polygons as convex, concave, equilateral, equiangular, or regular  
Finding perimeter and area of squares, triangles and rectangles  
Finding circumference and area of circles

### **Common Assessments:**

Assignment sheets will be distributed periodically throughout the school year. Homework will be assigned on a daily basis. Grades will be based on quizzes and tests. In addition, teachers may use homework, group activities, and/or projects for grading purposes. All students will take departmental midyear and final exams. The Radnor High School grading system and scale will be used to determine letter grades.  
Homework: All assignment sheets for this course can be found on the math department website.

***Major Units of Study:***

- I. Basic Ideas of Geometry**
- II. Parallel Lines and Planes**
- III. Transformations**
- IV. Congruent Triangles**
- V. Constructions**
- VI. Using Congruent Triangles and Parallel Lines**
- VII. Similarity**
- VIII. Right Triangles**
- IX. Coordinate Geometry**
- X. Circles**
- XI. Area and Perimeter of Polygons**
- XII. Surface Area and Volume**

***Materials & Texts***

**MATERIALS**

- Graphing and/or scientific calculator; Compass and straight edge

**TEXTS** McDougal Littell, Larson et al, 2007

***Summer Assignment***