



Online Courses for High School Students  
1-888-972-6237

## Course Outline Math A Semester 2

**Course Description:** This is the second semester of a two year Regents level Math course. As in the Math A1 course description, this course is designed to provide students with the skills to be successful in Regents level Mathematics. The curriculum consists of activities which utilizes the skills developed from Math A1 toward the study of geometry.

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### Course Outline:

#### **Chapter 9 – Geometry: Congruent and Similar Polygons**

- 1.1 Congruent and Similar Polygons
- 1.2 Plotting Points
- 1.3 Polygons and Triangle Classification
- 1.4 -1.5 Congruent and Similar Polygons
- 1.6 Isosceles Triangles
- 1.7 Similar Polygons
- 1.8 Finding the Missing Factor
- 1.9 Unit Quiz

#### **Chapter 10 - Factoring**

- 1.1 Greatest Common Monomial Factor
- 1.2 A Special Product: Difference of Two Squares
- 1.3 Special Product: Perfect Square Trinomial
- 1.4 Factoring Trinomials
- 1.5 Unit Quiz
- 1.6 Accumulative Quiz

#### **Chapter 11 – Quadratic Equations and Rational Expressions**

- 1.1 Solving Quadratic Equations
- 1.2 Quadratic Equations in Standard Form
- 1.3 Number and Consecutive Integer Problems
- 1.4 Area Problems
- 1.5 Simplifying Rational Expressions
- 1.6 Multiplying and Dividing Rational Expressions
- 1.7 Adding and Subtracting Rational Expressions

- 1.8 Unit Quiz
- 1.9 Accumulative Unit Quiz

### **Chapter 12 - Radicals and the Pythagorean Theorem Equations**

- 1.1 Square Root of a Number
- 1.2 The Set of Real Numbers
- 1.3 Simplifying Radicals
- 1.4 Radicals with Variables
- 1.5 Adding and Subtracting Radicals
- 1.6 Multiplying and Dividing Radicals
- 1.7 The Pythagorean Theorem
- 1.8 Unit Quiz
- 1.9 Accumulative Unit Quiz

### **Chapter 13 – Coordinate Geometry**

- 1.1 Slope
- 1.2 Slope of a Line
- 1.3 Equation of Lines
- 1.4 Slope-Intercept Form of an Equation of a Line
- 1.5 Graphing Lines
- 1.6 Parallel or Perpendicular Lines, Tables
- 1.7 Unit Quiz
- 1.8 Accumulative Unit Quiz

### **Chapter 14 – Systems of Equations and Inequalities**

- 1.1 Solving Systems of Equations: Graphing
- 1.2 Solving Systems of Equations: Substitution
- 1.3 Solving Systems of Equations: Addition, Multiplication-Addition
- 1.4 Systems Applied to Problem Solving
- 1.5 Systems and Coin and Mixture Problems
- 1.6 Graphing Inequalities in Two Dimensions
- 1.7 Systems of Inequalities
- 1.8 Unit Quiz
- 1.9 Accumulative Unit Quiz

### **Chapter 15 – Quadrilaterals, Circles and Solids**

- 1.1 Quadrilaterals and Parallelograms
- 1.2 Special Types of Parallelograms
- 1.3 Areas of Parallelograms and Triangles
- 1.4 Trapezoids
- 1.5 Circles and Complex Geometric Figures
- 1.6 Volumes
- 1.7 Unit Quiz
- 1.8 Accumulative Unit Quiz

**Materials:** None

**Course Objectives:**

Students will:

- Develop the following fundamental algebraic skills:
  - o Simplify and evaluate expressions
  - o Manipulate polynomials
  - o Solve and graph linear functions
  - o Factor polynomials
- Apply algebraic problem solving strategies to real-world situations
- Use graphing technology to solve, interpret, analyze, compare linear functions, inequalities, and absolute value graphs
- Communicate mathematically by expressing ideas, analyzing situations, explaining procedures for correct computation, and describing results numerically and graphically
- Use the Internet to gain useful information
- Develop a sense of class membership, using newsgroups and e-mail to communicate with teacher and classmates