**Algebra 1**

**Syllabus**

**Overview**

This class is a classic curriculum required by the state of Indiana for graduation. The completion of this class will culminate in the taking of the state required End Of Course Assessment (ECA) exam. Passing this test is required for graduation. The material covered in this class covers all the state standards for Algebra 1 and the testing is designed to prepare students for passing the ECA test.

Algebra 1 is a core class that is built upon by higher math and by science classes. Algebra 1 introduces symbolic notation math, and graphing of two variables.

**Class Outline**

**Real Numbers**

Exponents

Square Roots, and Rational exponents

Commutative Property

Distributive Property

Associative Property

Dimensional Conversions

**Linear Equations (including inequalities)**

Solving for variables

Single and multi-step

Solving combined linear inequalities

Real world implications and word problems

**Functions**

Function basics

Understand domain and range of functions

Graphing basics

Reading and creating graphs

**Graphing Linear Equations (including inequalities)**

Understand slope and intercepts from equations or graphs

Draw graph from an equation, or write an equation from a graph

Model data

Best fit lines

Extrapolation and prediction

Inequality graphing (multiple equations)

**Linear Equation Pairs (including inequalities)**

Solve by graphing

Solve with substitution method

Solve with elimination method

Real world implications and word problems

**Polynomials**

Arithmetic with polynomials (including multiplying binomials)

Factoring

Distributive Property

Quadratics

Graphing relationships

**Algebraic Fractions**

Proportions and ratios (including applications and word problems)

**Quadratics, Cubics and Radicals**

Graphing

Solving by graphing or factoring

Completing the square

Quadratic formula

Radical expressions

Manipulation and solving

**Assessment**

There will be a unit test after each of the above listed sections. There will be a Final Exam for each semester. Homework will be completed for a completion grade. This does not penalize students for getting homework wrong. Most class days will include a homework quiz. This will not occur until after homework has been reviewed, and students have had a chance to get any questions answered.

Semester grades are based on total points, and account for 80% of the total grade. The final exam is 20% of the total. The final exams are closed note exams, but students may use the ECA reference sheet with formulas on the exams. In general, each of the categories will be scored for the following total points

Homework 10 pts

Homework Quiz 6 pts

Unit Test 100 pts

Bonus puzzles will be available periodically on line. These are worth 10 points, unless stated otherwise

**Tutoring/Extra help**

Students are encouraged to not fall behind in any math class, and Algebra 1 is no exception. End of day tutoring is offered many days after school. Students may also seek help before school by appointment or during lunch/advisory.

**Calculators**

A calculator is required for this class. In the classroom, calculators are available. Students MUST have a calculator for some homework assignments.

**Web Site**

A web site is maintained to help provide students with information and files for studying. All power point files used in class will be posted on line. PDF files of the homework assignments will also be posted. Most assignments will come from the workbook that is provided to each student. Additional practice problems and other worksheets will also be assigned, and will also be posted on line.

The website can be found at mrfronius.com. It is also linked from the main school website fallcreekacademy.org