**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