

Algebra I

We will be studying the following topics, not necessarily in order. We may have to skip a few, but all will be covered in algebra 2, especially since algebra 1 & 2 make up a typical college algebra course.

1. Foundations for Algebra (review)
2. Solving Equations
3. Solving Inequalities
4. Introduction to Functions
5. Linear Functions
6. Systems of Equations and Inequalities
7. Exponents and Exponential Functions
8. Polynomials and Factoring
9. Quadratic Functions and Equations
10. Radical Expressions and Equations

Algebra II

We will be studying the following topics, not necessarily in order. We may have to skip a few; we will probably get to about chapter 9. Topics 11 through 14 are covered in advanced algebra and stats class as well as in trig and calc class.

1. Expressions, Equations, and Inequalities
2. Functions, Equations, and Graphs
3. Linear Systems
4. Quadratic Functions and Equations
5. Polynomials and Polynomial Functions
6. Radical Functions and Rational Exponents
7. Exponential and Logarithmic Functions
8. Rational Functions
9. Sequences and Series
10. Quadratic Relations and Conic Sections
11. Probability and Statistics
12. Matrices
13. Periodic Functions and Trigonometry
14. Trigonometric Identities and Equations

Advanced Algebra and Statistics

We will study a few miscellaneous algebra topics from pre-calculus as well as much introductory statistics. A solid grasp of Algebra I and II topics will be of advantage to you. This class and the other two algebra classes help prepare the student for college courses in algebra, statistics, and calculus.

1. Systems of Linear Equations
2. Matrices
3. Sequences and Series, Counting Principles
4. Conics, Parametrics, Polar Coordinates ?maybe not this section depending on time
5. Introduction to Statistics

6. Describing Data
7. Probability
8. Binomial and Poisson Distributions
9. Standard Normal Distribution
10. Estimates and Sample Sizes
11. Hypothesis Testing ?hopefully we get this far... a basis for much statistics in other fields

Trigonometry and Calculus

Below are a few of the chapters we'll be studying regarding trigonometry and introductory differential and integral calculus. One of my intentions with this course is for it to serve as college preparation (for a college-level trig or calc class) dependent upon student interest. We may not get to integral calculus, which is typically a college calculus 2 class. (6, 7, 8 depending on student interest and speed)

1. Trigonometry
2. Analytic Trigonometry
3. Additional topics in Trigonometry
4. Limits and Continuity
5. Derivatives

6. Applications of Derivatives
7. Some Definite Integrals
8. Applications of Definite Integrals

... and potentially other topics and sources to be determined

7th Grade Math

Some of the topics we will be studying are listed below:

1. The real numbers
2. Equations
3. Inequalities
4. Ratios, rates, proportions
5. Percents, fractions, decimals
6. Intro to geometry
7. Surface area and volume
8. Intro to data analysis
9. Intro to probability