

Syllabus (Honors Algebra Prep Course)

1st Nine Weeks:

- Order of Operations—(Level 10)
- Solving Multi-Step Equations by Getting rid of the fractions and decimals
- Absolute Value Equations
- Equation Word Problems
- Consecutive Integer Word Problems
- Dimensional Analysis
- Blended mixture Word Problems
- WORK and Time Word Problems
- Calculating Slope
- Direct Variation
- Writing Equations Given varied Information
- Writing Equations using the Arithmetic Formula
- Writing Equations (Parallel and Perpendicular Lines)
- Solving and Graphing Systems of Equations Using the Following:
 - Substitution
 - Elimination
 - Augmented Matrices
- Cramer's Rule
- Solving and Graphing Systems of Inequalities
- Adding, Subtracting, and Multiplying (Scalar Only) Matrices

2nd Nine Weeks:

- Multiplying Monomials & Simplifying
- Dividing Monomials & simplifying
- Expressing Numbers in Scientific Notation
- Multiplying and Dividing Scientific Notation Expressions
- Find the degree of the Polynomials
- Adding and Subtracting Polynomials
- Multiplying a Polynomial by a Monomial
- Multiplying a Binomial by a Binomial (FOIL/Distributive Property)
- Multiplying a Binomial by a Trinomial AND a Trinomial by a Trinomial
- Special Products: Perfect Squares and Difference of Square
- Factoring [GCF, 2 terms (binomials), 3 terms (trinomials), and 4 terms]
- Difference of Squares
- Perfect Squares

3rd Nine Weeks

- Graphing Quadratic functions
- Transformations of Quadratic Functions
- Solve Quadratic Equations by Factoring
- Solve Quadratic Equations by Completing the Square
- Similar Triangles
- Graphing Square Root Functions
- Simplifying Radicals (Square Roots)
- Operations with Radical Expressions (Add & Subtract)
- Solving Radical Equations
- The Pythagorean Theorem
- Finding the Distance and Midpoint of Line Segments
- Finding the missing Side Length or the Missing Angle Measure of Similar Triangles
- Indirect Variation
- Graphing Rational Functions (asymptote)
- Simplifying Rational Expressions
- Multiplying and Dividing Rational Expressions
- Dividing Polynomials using Long Division
- Dividing Polynomials using Synthetic Division
- Adding and Subtracting Rational Expressions
- Simplifying Mixed and Complex Fractions
- Solving Rational Equations

4th Nine Weeks

- Statistics
- Analyzing Survey Results
- Find Probability of compound Events
- Trigonometric Ratios
- Practice, Practice, Practice for Honors Test
- Above and Beyond:
 - Imaginary Numbers
 - Various Roots
 - Solving Square Root within Square Root