**Algebra 2**

##### In this level, your student will confidently explore advanced factoring, conjugate numbers, the binomial theorem, and more to review and expand mastery of topics taught in Algebra 1. Achieve a solid grasp of graphing and solving equations visually and algebraically with Math-U-See Algebra 2.Factoring polynomials, quadratic formula, graphing conic sections and other Algebra 2 topics

|  |  |
| --- | --- |
| **Major Concepts and Skills Include:**   * Simplifying multiple-degree rational expressions * Working with imaginary and complex numbers * Understanding and applying the binomial theorem * Solving basic quadratic equations with factoring * Applying analytic geometry to conic sections * Solving simultaneous equations (linear and conic) using graphing, substitution, and elimination | **Additional Concepts and Skills:**   * Applying basic algebra to problems involving ratios and proportions * Graphing inequalities * Using the distance and midpoint formulas * Solving equations with three variables * Solving problems involving distance, rate, and time * Understanding vectors |

**Table of Contents**

|  |  |
| --- | --- |
| * Exponents * Rational Expressions * Scientific Notation * Combining Like Terms * Radicals: Basic Operations and Simplifying * Factoring Polynomials * Fractional Exponents * Solving Equations with Rational Expressions * Imaginary and Complex Numbers * Conjugate Numbers * Cubes and Pascal's Triangle * Binomial Theorem * Completing the Square * Quadratic Formula * Discriminants * Applications Using Percent * Isolating a Variable * Ratios | * Unit Multipliers and Metric Conversions * Distance = Rate x Time * Motion Problems * Graphing Lines * Graphing Parallel and Perpendicular Lines * Graphing Inequalities * Distance Formula and Midpoint Formula * Conic Sections: Circle and Ellipse * Conic Sections: Parabola * Parabola: Maxima and Minima * Conic Sections: Hyperbola * Solving Systems of Equations: Lines and Conic Sections * Coin Problems * Consecutive Integers * Chemical Mixtures * Age and Boat in the Current Problems * Solving Equations with Three Variables * Vectors |