

Honors Algebra 1

Course Description:

Thinkwell Honors Algebra 1 offers comprehensive coverage of foundational concepts to Algebra 1 and higher math, emphasizing the comprehension and extension of skills introduced in the Middle Grades through analysis and practical application. Topics covered in Thinkwell Honors Algebra 1 focus on expressions, equations, inequalities, functions, data analysis, and probability.

Prof. Edward Burger presents lessons through approximately 25 hours of video lectures. The student's grade is determined by their scores on quizzes (40%), tests (40%), one midterm exam (10%), and one final exam (10%).

Honors Algebra 1 Overview

- **Foundations for Algebra**
 - Variables and algebraic expressions
 - Operations with real numbers
 - Exponents, square roots, and the order of operations
 - Set theory
 - Rates, ratios, proportions, and percents
 - Percent increase and decrease
 - Properties of exponents
 - Scientific notation
 - Operations with polynomial, radical, and rational expressions
 - Factoring polynomials

- **Equations and Inequalities**
 - Solving linear and quadratic equations
 - Graphing, writing, and solving linear and compound inequalities
 - Solving systems of linear equations and inequalities
 - Solving literal, radical, rational, and absolute-value equations
 - Solving absolute-value inequalities

- **Graphing and Functions**
 - Writing function rules
 - Graphing linear and quadratic functions
 - Transforming linear and quadratic functions
 - Rate of change and the slope of a line
 - Intercepts
 - Slope-intercept and point-slope forms
 - Scatter plots and trend lines
 - Midpoint and distance formulas
 - Exponential and radical functions
 - Rational functions
 - Inverse variation
 - Geometric and arithmetic sequences

- **Data Analysis and Probability**
 - Bar, circle, and line graphs
 - Stem-and-leaf and box-and-whisker plots
 - Histograms
 - Experimental and theoretical probability
 - Combinations and permutations
 - Mean, median, mode, and range
 - Expected value
 - Normal distribution

Honors Algebra 1 Course Information:	
Recommended Course Duration	36 weeks
Topics	103
Hours of Video Content	25
Practice Exercise and Worksheet Questions	1800+
Number of Graded Assessments (Quizzes, Tests, & Exams)	38