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FOUNDED IN 1879

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NMH SUMMER SESSION

2010
College Prep Program
A L G E B R A I

This course covered all the material in a full-year Algebra I course. The text used was *Algebra I* by Paul A. Foerster. The class revolved around how to manipulate the polynomial. Considerable time was spent on linear and quadratic equations, factoring, systems of equations, rational algebraic expressions, radical algebraic expressions, graphing, and word problems.

Comprehensive and detailed homework was assigned each night. There were tests scheduled throughout the term every one or two chapters. In addition, there was a final exam. The class met for three hours, six mornings per week, plus 1.5 hours, four afternoons per week, for the five-week session.

The class covered, in detail, chapters 1-7, 9-13, part of chapter 8 and part of chapter 14. In general, the topics covered were:

Chapter 1: Expressions and Equations
- operations with numbers
- variables
- powers and exponents
- order of operations
- expressions from words
- intro. to equations
- solving equations
- intro to word problems

Chapter 2: Operations with Negative Numbers
- adding, subtracting, multiplying, dividing
- signed numbers
- commuting and associating
- transforming equations
- word problems

Chapter 3: Distributing Axioms and other Properties
- distributive properties
- axioms for adding and multiplying
- properties of equality

Chapter 4: Harder Equations
- equations with like terms
- equations with like terms and distributing
- equations with variables in both members
- equations that involve decimals
- literal equations and formulas
- word problems

Chapter 5: Some Operations with Polynomials and Radicals
- factoring quadratic trinomials
- difference of squares
- squaring a binomial
- factoring a trinomial square

Chapter 6: Quadratic Equations
- absolute value equations
- the quadratic formula

Chapter 7: Graphing and Systems of Equations
- slope formula
- slope-intercept formula
- point-slope formula
- solving systems of equations by graphing
- solving systems of equations by linear combination
- solving systems of equations by substitution

Chapter 8: Probability
- linear functions

Chapter 9: Exponents
- products and powers
- negative and zero exponents
- exponents and quotients
- scientific notation
- word problems

Chapter 10: Polynomials
- Greatest Common Factor
- factoring quadratics

Chapter 11: Rational Algebraic Expressions
- simplifying expressions
- multiplying and dividing
- Least Common Multiple
- adding and subtracting
- combined operations
- polynomial division
- fractional equations
- ratio and proportion

Chapter 12: Radical Algebraic Expressions
- sums, differences, products
- quotients
- binomials
- square roots
- equations
- Pythagorean theorem
- higher order radicals
- rational and irrational numbers

Chapter 13: Inequalities
- solving
- compound inequalities
- linear
- systems of equations
- absolute value

Chapter 14: Functions and Other Advanced Topics
- quadratic functions

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