

Algebra 1A : Regents Curriculum

Teacher: _____

Course Description:

The New York State Algebra Regents Examination is a standardized Assessment Test that all students in New York must pass in order to graduate from high school. The test requires students to demonstrate their ability to apply fact and definitions, solve problems, and show their understanding on mathematical procedure and problem-solving strategies. They have increased emphasis on the use of the graphing calculator. There are seven key categories that must be developed as a standard: mathematical reasoning, operations, numbers and numeration, measurement, probability, patterns/functions, and modeling/multiple representations.

Text-Books: Barron's Regents Prep, Regents High School Algebra, Exam Review Book

Assessment: Students will be assessed on their ability to answer multiple choice questions using specific testing strategies and problem solving. Presentation by group work and previous Algebra Regents Exams practices.

Topics To Covered:

1. Number Theory(2 Days)
 - Properties of Real Numbers

2. Operations:(10 Days)
 - Radicals
 - Scientific Notation
 - Fractions, Percents, Ratios, Proportions
 - Direct Variation
 - Exponents
 - Factorials
 - Absolute Value
 - Multiple Choice Practice – Topic: Operations

3. Pre Algebra Review:(3 Days)
 - Rational and Irrational Numbers
 - Order of Operations
 - Signed Numbers

4. Variables and Expressions:(6 Days)
 - Algebraic Representations
 - Addition and Subtraction of Polynomials
 - Multiplication of Polynomials
 - Division of Polynomials
 - Algebraic Fractions and Equations
 - Factoring

- Multiple Choice Practice: Variables and Expressions
5. Equations and Inequalities(10 Days)
 - Algebraic Translations
 - Linear Equations
 - Systems of Linear Equations
 - Literal Equations
 - Quadratic Equations
 - Linear-Quadratic Equations
 - Exponential Growth and Decay
 - Linear Inequalities (Single Variable)
 - Graphing Linear Inequalities
 - System of Inequalities
 - Multiple Choice Practice: Equations and Inequalities
 6. Patterns and Functions:(3 Days)
 - Set-Builder and Interval Notation
 - Working with Sets and Venn Diagrams
 - Definition of a Function
 7. Trigonometric Functions:(5 Days)
 - Pythagorean Function
 - Trigonometric Ratios (using sine, tan and cosine)
 8. Coordinate Geometry(8 Days)
 - Slopes and Equations
 - Parallels and Perpendiculars
 - Parabolas
 - Graphing Functions and Examining Coefficients
 - Multiple Choice Practice: Coordinate Geometry
 9. Shapes(5 Days)
 - Area and Perimeter of Polygons and Circles
 - Volume and Area of Rectangular Solids and Cylinders
 10. Measurement Strand:(3 Days)
 - Metric/English Conversions and Rates
 - Error and Measurement
 11. Probability and Statistics:(8 Days)
 - Categorizing Data and Bias
 - Mean, Median and Mode
 - Displaying Data (Histograms, Cumulative Frequency Histogram, etc
 - Scatter Plots, Correlation, Line of Best Fit, Prediction
 - Percentiles and More Quartiles
 - Multiple Choice Practice: Working with Data

12. Probability: (10 Days)

- Counting Principle
- Permutations
- Sample Spaces and Tree Diagrams
- Single AND Compound Events
- Theoretical versus Empirical Probability
- Mutually Exclusive and Independent Events, Complement
- Conditional Probability
- Problems Involving AND & OR
- Multiple Choice Practice: Probability