COURSE: Regents Algebra

Unit	Concepts	Skills	Assessments
1	Relationships of rational number Algebraic Expressions Scientific Notation Problem solving	-Ordering & comparing rational numbers -Evaluating powers -Order of operations -Opposite of a number -Absolute value -Properties of numbers -Reading, writing, evaluating algebraic expressions -Evaluating formulas -Checking solutions of equations and inequalities -Monomials-vs-Polynomials -Perimeter, Area and Volume -+,-,*,/, powers of monomials -Zero exponent -Positive & negative exponents -Performing operations in Scientific Notation **-Exponential Growth and Decay**	-Practice concepts -Homework -Participation/Discussion -Quizzes -Unit test
2	Algebraic Expressions Problem solving	-Classification of polynomials -Combining like terms -Addition/Subtraction of polynomials -Perimeter, Volume and Area -Multiplying a polynomial by monomial -Multiplying binomials -Multiplying polynomials (simplifying expressions containing parentheses) -Dividing a polynomial by a monomial	-Practice Concepts -Homework -Participation/Discussion -Quizzes -Unit Tests
3	Solving first degree equations Solving first degree inequalities Solving systems of equations algebraically Problem solving	-Solving one-step equations -Solving equations of the type Ax+By=C -Solving equations with parentheses -Solving equations by combining terms -Solving equations with variable on both sides -Solving one-step inequalities -Multiplying /Dividing an inequality by a negative -Solving multi-step inequalities -Graphing the solution set of an inequality **-Set builder notation** **-Interval notation** -Solving literal equations -Solving a system of linear equations by substitution -Solving a system of linear equations by linear combination	-Practice concepts -Homework -Participation/Discussion -Quizzes -Unit test

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4	**Trigonometry**	**Definition of Ratios** **-Sine, Cosine, Tangent** **Find unknown part of a right triangle w/ trig**	**-Practice concepts** **-Homework** **-Participation/Discussion** **-1 quiz**
5	Solving word problems algebraically Problem solving	-Translating verbal expressions into algebraic expressions -Translating verbal sentences into algebraic equations -Translating verbal sentences into algebraic inequalities -Solving word problems using equations/inequalities -Number, coin, age, perimeter, consecutive integer, distance, real-life applications -Solving word problems using systems of linear equations- Mixture, Business, Real-Life applications	-Practice concepts -Homework -Participation/Discussion -4 quizzes -Unit test
6	Coordinate Geometry	-Terminology in respect to the coordinate plane -Area of geometric figures -Using the appropriate formula for figures having horizontal and/or vertical sides -Enclosing the figure in a rectangle -Sectioning the figure into regions having known formulas -Linear Equations -Determining if a point is on the graph -Finding a missing coordinate if the point is on the graph -Slope -Definition -Formula -Finding missing coordinate with known slope -Parallel or Perpendicular -Relationships of slopes -Using the equations -Using points on a line0 -Graphing Linear Equations -Horizontal & vertical -Finding points that lie on the line -Slope-intercept -Solution to a system of equations graphically -Graphing Linear Inequalities -Determining if a line is a part of the solution set -Determining if ordered pairs are part of the solution set -Graphing the solution to a system of inequalities	-Practice concepts -Homework -Participation/Discussion -5 quizzes -2 day unit test

COURSE: Regents Algebra

Unit	Concepts	Skills	Assessments
7	Factoring algebraic expressions Quadratic equations Problem solving	-Factoring greatest common monomial factor -Factoring difference of perfect squares -Factoring quadratic trinomial -Factoring completely -Transforming a quadratic equation into standard form -Solving quadratic equations by factoring -Finding the value of an unknown coefficient or term in a quadratic equation given one - root -Writing a quadratic equation given the root -Solving word problems involving quadratic equations -Number, age. Area, volume, consecutive integers, real-life applications **-Quadratic-Linear Systems Solved Algebraically**	-Practice concepts -Homework -Participation/Discussion -4 quizzes -Unit test
8	Algebraic fractions Fractional equations Problem solving	-Undefined fractions -Factoring algebraic expressions -Reducing fractions -Additive inverse -Multiplication/division of algebraic rational expressions -Multiplicative inverse -Additive inverse -Addition/subtraction of algebraic rational expressions -Like denominations -Additive inverse -Unlike monomial -Unlike polynomial -Solving proportions -Solving fractional equations -Solving equations with fractional coefficients -Solving word problems -Number -Consecutive integer -Quotient/remainder -Problems.	-Practice concepts -Homework -Participation/Discussion -5 quizzes -Unit test
9	**Coordinate Geometry II**	**-Writing the Equation of a Line** **-slope-intercept** **-point-slope** **Graphing Quadratic Equations (Integer solution)** **Parabola** **-Axis of Symmetry** **-Vertex** **-Maximum/ Minimum** **-Roots** **-Interval Defined** **-Determining Interval** **Solving linear/quadratic systems** **Application of TI-83 Plus Graphing Calculator** **Graphing Absolute Value Equations** **Graphing Exponential Functions**	

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Unit	Concepts	Skills	Assessments
10	Square Root Radicals Theorem of Pythagoras Area Problem solving	-Rational - vs- Irrational -Approximating square root radicals using the scientific calculator -Simplifying square root radicals -Rationalizing the denominator -Operations with square root radicals -Solving quadratic equations of the form $ax^2 = k$ -Pythagorean Theorem -Using the theorem to find the missing side of a right triangle. -Converse of the Pythagorean Theorem -Real-life applications -Circle -Vocabulary -Relationships -Area -Circumference -Addition/Subtraction of Areas -Formulas -Real-life applications -**Error in magnitude**	-Practice concepts -Homework - Participation/Discussion -4 quizzes -Unit test
11	**Probability**	**Permutations/Counting Principle** **-Special Conditions** **Probability of an event and its complement** **-Simple Probability, Single/Multiple Events** **-Independent/Dependent Events** **-Mutually Exclusive/Not mutually exclusive** **-Tree Diagrams, Sample Spaces** **Factorials** **Venn Diagrams** **Union** **Complement of a subset**	**-Practice concepts** **-Homework** **-** **Participation/Discussion** **-5 quizzes** **-unit test**
12	**Statistics**	**Qualitative/Quantitative Variables** **Univariate/Bivariate Data** **Biased representation of collected data** **Measures of Central Tendency** **-Mean, Median, Mode, Range** **Percentiles and Quartiles** **Box-and-Whisker Plots** **Stem-and-Leaf Plots** **Scatterplot and Line of Best Fit** **Extrapolation/Interpolation using LOBF** **Distinguish between correlation and causation** **Histograms** **-Frequency, Cumulative Frequency**	**-Practice concepts** **-Homework** **-** **Participation/Discussion** **-5 quizzes** **-unit test**