Content Area Algebra **Grade Level/Course:** Basic Algebra II w/ Math Applic **District**

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Unit #	Content	Objectives Skills Processes	Vocabulary	Assessment	Chapters / Sections MA = Survey of Math w/ Applications AA = Adv. Algebra II Text	Mn Standard & Benchmarks	Estimate # of days on Unit
Unit 1	Inductive Reasoning and Problem Solving	Review Algebra I Skills	Percent, Estimation, Theorem, Postulate, Variable, Expression, Formula, Equation, Power, Exponent, Coefficient	Unit Test	MA - Section 1.1 - 1.3 & 11.1		about 5
Unit 2	Number Theory and the Real Number System w/ Sequences	Students should know how to use a calculator and spreadsheet to explore Sequences, along with practicing all kinds of numbers.	Types of Numbers (Real, Rational, Irrational, Integers), Exponents, Scientific Notation, Sequences, Recursive, Arithmetic & Geometric Sequences.	Unit Test	MA - Section 5.1 - 5.7	9.2.3.7 9.2.4.8 9.2.2.4 9.2.2.5	about 10
Unit 3	Introduction to 10 Basic Parent Curves	Get a jump start on relations, functions, graphs, domains and ranges.	Transformations, **Relation vs. Function**, Parent Funtion, Input vs. Output, Odd n - Even Functions, Linear, Quadratic, Cubic, Exponential, Inverse, Absolute Value, Cube Root, Square Root, **Domains**, **Ranges (Boundary Output), Inequality,** Dependent & Independent Variable, Domain & Range, Set, Translation, Function Notation.	Activity	Activity	9.2.1.1 9.2.1.2 9.2.1.3 9.2.2.6	about 3

Unit 4	Linear Equations	Focusing on order of operations and expanding polynomials. Writing and graphing linear equations and inequalities.	Slope-Intercept Form for Linear Equations, Linear Variation.	Unit Test	MA - Section 6.1 - 6.7 & supplementary materials from AA Chapter 3	9.2.2.3 9.2.1.4 9.2.1.8	about 14
Unit 5	Linear Regression and Correlation	Analyzing real life data.	Scatterplots, Correlation, Linear Regression.	Stamp Project Barbie Bungee Jumping	MA - Section 13.8	9.2.1.8	about 5
Unit 6	Linear Inequalities in 2 Variables	Writing and graphing linear equations and inequalities in two variables.	Linear Inequalities		MA - Section 6.8	9.2.4.6	about 3
Unit 7	Linear Systems	Solving systems of equations using a variety of methods.	Systems, Elimination, Substitution, Consistent, Inconsistent, **Feasible Region**.	Unit Test	MA - Section 7.1 - 7.2 & 7.5	9.2.2.1 9.2.4.3 9.2.4.4 9.2.4.5 9.2.4.6	about 14
Unit 8	Quadratic Functions and Factoring	Graphing and writing quadratic functions in several forms. Solving quadratic equations using a variety of methods. Performing operations with square roots and complex numbers.	**Parabola**, **Quadratic Function**, Translation, **Vertex**, **Line of Symmetry, Monomial**, Binomial, Trinomial, Roots, **Zeros**, **Non-Real**, Imaginary & **Complex Numbers**, Quadratic Formula, Discriminant.	Unit Test	AA - Section 6.1 - 6.10	9.2.1.4 9.2.1.5 9.2.1.9 9.2.2.1 9.2.2.3 9.2.3.3 9.2.3.5 9.2.4.1 9.2.4.3	about 21

Unit 9	Rational Exponents and Radical Functions	Graphing radical functions and solving radical equations. Graphing and solving rational equations and functions.	**nth root**, Radical, Direct & Inverse Variation, Continuous & Discontinuous, Radical Functions, Rational Functions, **Extraneous Solution**.	Unit Test	AA - Parts of Chapter 7 & 8	9.2.1.1 9.2.2.2 9.2.3.1 9.2.3.6 9.2.4.7	anywhere from 14 - 20
Unit 10	GRAD Test Review	To get every Algebra II student to pass the GRAD!	NA	NA	Supplementary Materials		about 10
Unit 11	Polynomials and Polynomial Functions	Graphing polynomial functions. Performing operations with polynomials. Solving polynomial equations and finding zeros.	**Polynomial**, Leading Coefficient, **Degree**, Factor, **Maxima**, **Minima**.	Unit Test	AA - Parts of Chapter 11	9.2.1.6 9.2.3.1 9.2.3.2	about 14
Unit 12	Exponential and Logarithmic Functions	Graphing and solving exponential, power and logarithmic functions.	**Exponential Function, Growth**, **Decay**, Inverses, **Asymptote**, Logarithm.	Unit Test	AA - Section 9.1 - 9.2, 9.5, 9.8, 9.10	9.2.1.7 9.2.2.2 9.2.2.3 9.2.4.2	about 14
Unit 13	Finance Unit	Consumer Mathematics touching on loans, interest, mortgages, taxes, etc.	**Compound Interest**, Simple Interest, Mortgages, Investments.	Unit Test	MA - Sections 11.1 - 11.6	9.2.2.2 9.2.2.5	about 14
Unit 14 (if time)	Geometry Unit	Highlights of Geometry that are Algebra Based.	Missing Variables, Conversions, Perimeter, Area, Surface Area, Volume	Remodeling Bedroom Activity Unit Test	MA - Section 8.1 - 8.4 & Section 9.1 - 9.5		about 14

Unit 15 (if time)	Statistics Unit	Practical uses of statistics.	Data Collection, Misuses of Statistics, Histograms, Measures of Central Tendancy, Standard Deviation, Normal Curve.	Unit Test	MA - Section 13.1 - 13.7		about 14