

Content Area

Algebra  
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Grade Level/Course: Algebra II

District

Author

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Date

Unit #	Content	Objectives Processes	Skills	Vocabulary	Assessment	Resources Chapters / Sections	Mn Standard & Benchmarks	Estimate # of days on Unit
Unit 1	Foundations for Functions	Review Algebra I Skills		Variable, Expression, Formula, Equation, Power, Exponent, Coefficient, Linear Equation, Inequality, Dependent & Independent Variable, Domain & Range, Set, Translation, Function Notation.	Unit Test	Section 1.1- 1.8	9.2.1.1 9.2.3.7 9.2.4.3 9.2.4.8	about 16
Unit 2	Introduction to 10 Basic Parent Curves	Get a jump start on relations, functions, graphs, domains and ranges.		Transformations, <b>Relation vs. Function</b> , Parent Function, Input vs. Output, Odd n - Even Functions, Linear, Quadratic, Cubic, Exponential, Inverse, Absolute Value, Cube Root, Square Root, <b>Domains, Ranges (Boundary Output)</b> .	Activity	Section 1.9	9.2.1.1 9.2.1.2 9.2.1.3 9.2.2.6	about 2
Unit 3	Linear Equations and Functions	Representing relations and functions. Graphing linear equations and inequalities in two variables. Writing linear equations and inequalities in two variables.		Slope-Intercept Form for Linear Equations, Variation, Scatterplots, Correlation, Linear Regression.	Stamp Prediction Paper Unit Test	Section 2.1 - 2.9	9.2.2.3 9.2.1.4 9.2.1.8	about 18
Unit 4	Linear Systems	Solving systems of equations using a variety of methods.		Systems, Elimination, Substitution, Consistent, Inconsistent.	Unit Test	Section 3.1 - 3.6	9.2.2.1 9.2.4.3 9.2.4.4 9.2.4.5 9.2.4.6	about 18

Unit 5	Matrices and Systems	Graphing systems of equations and inequalities.		Unit Test	Section 4.1-4.3 & 4.5 - no Cramer Rule	9.2.2.1	about 7
			Systems, Matrices, Consistent, Inconsistent, Inverses of Matrices, Determinant, Identity Matrix, <b>Feasible Region</b> .				
Unit 6	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.	<b>Parabola, Quadratic Function, Translations, Vertex, Line of Symmetry, Monomial, Binomial, Trinomial, Roots, Zeros, Non-Real, Imaginary &amp; Complex Numbers, Quadratic Formula, Discriminant.</b>	Unit Test	Section 5.1-5.9	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 20
Unit 7	Polynomials and Polynomial Functions	Graphing polynomial functions. Performing operations with polynomials. Solving polynomial equations and finding zeros.	<b>Polynomial, Leading Coefficient, Degree, Factor, Maxima, Minima.</b>	Unit Test	Section 6.1-6.9	9.2.1.6 9.2.3.1 9.2.3.2	about 20
Unit 8	Exponential and Logarithmic Functions	Graphing and solving exponential, power and logarithmic functions.	<b>Exponential Function, Growth, Decay, Compound Interest, Inverses, Asymptote, Logarithm.</b>	M&M Activity Unit Test	Section 7.1-7.8 (just basic examples on some), no 7.6	9.2.1.7 9.2.2.2 9.2.2.3 9.2.4.2	about 14

Unit 9	GRAD Test Review	To get every Algebra II student to pass the GRAD!	NA	NA	Supplementary Materials		about 10
Unit 10	Rational Exponents and Radical Functions	Graphing radical functions and solving radical equations. Graphing and solving rational equations and functions.	<b>nth root</b> , Radical, Direct & Inverse Variation, Continuous & Discontinuous, Radical Functions, Rational Functions, <b>Extraneous Solution</b> .	Function Project - Every student picks a different function to answer varies questions. Unit Test	Section 8.1 -8.8	9.2.2.2 9.2.3.1 9.2.3.6 9.2.4.7	about 16
Unit 11	Properties & Attributes of Functions	Performing function operations and finding inverse functions.	Composition, Piecewise Linear, Transformation, Inverses	Unit Test	Section 9.1 - 9.6	9.2.3.4	about 14
Unit 12	Quadratic Relations and Conic Sections	Graphing and writing equations of conic sections along with solving systems.	Circles, Ellipses, Conic Sections, Vertices	Unit Test	Section 10.1 - 10.3 & Section 10.7		about 10
Unit 13	Sequences & Series	Students should know how to use a calculator and spreadsheet to explore Geometric Sequences.	Sequences, Explicit and <b>Recursive</b> Formulas for Sequences, Arithmetic Sequences, Geometric Sequence, Series.	Unit Test	Section 12.1 - 12.4	9.2.2.4 9.2.2.5	about 10