Algebra 2 Math Curriculum Alignment with State Standards
NOTE: *italicized underlined* INCLUDED in Algebra 2

NM Statute 22-13-1.6.A. Each school district shall align its curricula to meet the state standards for each grade level and subject area so that students who transfer between public schools within the school district receive the same educational opportunity within the same grade or subject area.

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: ALGEBRA, FUNCTIONS, AND GRAPHS	Standard: Students will understand algebraic concepts and applications.	9-12 Benchmark A.1: Represent and analyze mathematical situations and structures using algebraic symbols.

Algebra 2 Performance Standards	Algebra 2 Textbook Pages	Supplemental Materials	Month(s) when Addressed
9-12.A.1.2 Classify and use equivalent representations of natural, whole, integer, rational, irrational numbers and *complex numbers*, and choose which type of number is appropriate in a given context.	Modules 2 (pp. 29 – 54), 3 (pp. 55 – 88), 4 (pp. 89 – 116) , 6 (pp. 145 – 182), 7 (pp. 183 – 236), 9 (pp. 255 – 296) SIMMS 2 Module 4 (pp. 89 – 130)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	August – May
9-12.A.1.9 Solve quadratic equations in one variable.	Module 9 (pp. 255 – 296)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	January – February
9-12A.1.10 Solve radical equations involving one radical.	Module 7 (pp. 183 – 236), 9 (pp. 255 – 296)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	January – April
9-12.A.1.11 Describe the properties of *rational* exponents and apply these properties to simplify algebraic expressions.	Module 4 (pp. 89 – 116)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November
9-12.A.1.13 Simplify rational expressions by factoring and reducing to lowest terms.	Module 4 (pp. 89 – 116), 6 (pp. 145 – 182)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November
9-12.A.1.14 Evaluate polynomial, *rational, radical, and absolute value* expressions for one or more variables.	Module 4 (pp. 89 – 116), 6 (pp. 145 – 182)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	September – December
9-12.A.1.15 Compare and order polynomial expressions by degree.	Module 4 (pp. 89 – 116)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November
9-12.A.1.16 Factor polynomials *of various types (e.g., difference of squares, perfect square trinomials, sum and difference of cubes).*	Module 4 (pp. 89 – 116)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November

9-12.A.1.17 Solve linear equations and inequalities in one variable *including those involving the absolute value of a linear function.*	Module 4 (pp. 89 – 116), 6 (pp. 145 – 182)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November
9-12.A.1.18 Use the four basic operations (+, -, ×, ÷) with linear and second degree polynomials, and *rational* expressions in contextual situations.	Module 4 (pp. 89 – 116)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November
9-12.A.1.19 Use the four basic operations (+, -, ×, ÷) in contextual situations with numbers in scientific notation, *and express the results with the appropriate number of significant figures.*	Module 4 (pp. 89 – 116)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: ALGEBRA, FUNCTIONS, AND GRAPHS	**Standard: Students will understand algebraic concepts and applications.**	**9-12 Benchmark A.2: Understand patterns, relations, functions, and graphs.**

Algebra 2 Performance Standards	Algebra 2 Textbook Pages	Supplemental Materials	Month(s) when Addressed
9-12.A.2.1 Distinguish between the concept of a relation and a function.	Module 6 (pp. 145 – 182)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November
9-12.A.2.2 Determine whether a relation defined by a graph, a set of ordered pairs, a table of values, an equation, or a rule is a function.	Module 6 (pp. 145 – 182)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	November – December
9-12.A.2.5 Explain and use function notation in both abstract and contextual situations and evaluate a function at a specific point in its domain.	Module 6 (pp. 145 – 182)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November
9-12.A.2.8 Graph a quadratic function and understand the relationship between its real zeros and the x-intercepts of its graph.	Module 6 (pp. 145 – 182), 7 (pp. 183 – 236), 9 (pp. 255 – 296)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	January – February
9-12.A.2.9 Graph exponential functions and identify their key characteristics as related to contextual situations.	Module 2 (pp. 29 – 54)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	August - September
9-12.A.2.10 Identify and describe symmetries of graphs.	Module 4 (pp. 89 – 116), 6 (pp. 145 – 182), 7 (pp. 183 – 236), 9 (pp. 255 – 296)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	January – February
9-12.A.2.11 Use the quadratic formula and factoring techniques to determine whether the graph of a quadratic function will intersect the *x*-axis in zero, one, or two points (include quadratic functions that represent real phenomena).	Module 9 (pp. 255 – 296)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	January – February
9-12.A.2.12 Explain the meaning of the real and complex roots of quadratic functions in contextual situations.	Module 9 (pp. 255 – 296)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	January – February

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: ALGEBRA, FUNCTIONS, AND GRAPHS	**Standard: Students will understand algebraic concepts and applications.**	**9-12 Benchmark A.3: Use mathematical models to represent and understand quantitative relationships.**

Algebra 2 Performance Standards	**Algebra 2 Textbook Pages**	**Supplemental Materials**	**Month(s) when Addressed**
9-12.A.3.2 Model real-world phenomena using quadratic equations, interpret resulting solutions, and use estimation to detect errors.	Module 7 (pp. 183 – 236), 9 (pp. 255 – 296)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	January – February
9-12.A.3.3 Model real-world phenomena using exponential equations, interpret resulting solutions, and use estimation to detect errors.	Module 2 (pp. 29 – 54)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	October – November
9-12.A.3.5 Solve applications involving systems of two equations in two variables.	SIMMS 2 Module 4 (pp. 89 – 130)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	August – September

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: Geometry and Trigonometry	**Standard: Students will understand geometric concepts and applications.**	**9-12 Benchmark G.1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.**

Algebra 2 Performance Standards	Algebra 2 Textbook Pages	Supplemental Materials	Month(s) when Addressed

This item is not applicable.

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: Geometry and Trigonometry	Standard: Students will understand geometric concepts and applications.	9-12 Benchmark G.2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems.

Algebra 2 Performance Standards	Algebra 2 Textbook Pages	Supplemental Materials	Month(s) when Addressed

This item is not applicable.

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: Geometry and Trigonometry	**Standard: Students will understand geometric concepts and applications.**	**9-12 Benchmark G.3: Apply transformations and use symmetry to analyze mathematical situations.**

Algebra 2 Performance Standards	Algebra 2 Textbook Pages	Supplemental Materials	Month(s) when Addressed

This item is not applicable.

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2	**Algebra 2 Textbook:** SIMMS Integrated Mathematics Level 4

Strand: Geometry and Trigonometry	**Standard: Students will understand geometric concepts and applications.**	**9-12 Benchmark G.4: Use visualization, spatial reasoning, and geometric modeling to solve problems.**

Algebra 2 Performance Standards	**Algebra 2 Textbook Pages**	**Supplemental Materials**	**Month(s) when Addressed**

This item is not applicable.

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: DATA ANALYSIS AND PROBABILITY	Standard: Students will understand how to formulate questions, analyze data, and determine probabilities.	9-12 Benchmark D.1: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.

Algebra 2 Performance Standards	Algebra 2 Textbook Pages	Supplemental Materials	Month(s) when Addressed

This item is not applicable.

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: DATA ANALYSIS AND PROBABILITY	**Standard: Students will understand how to formulate questions, analyze data, and determine probabilities.**	**9-12 Benchmark D.2: Select and use appropriate statistical methods to analyze data and make predictions.**

Algebra 2 Performance Standards	Algebra 2 Textbook Pages	Supplemental Materials	Month(s) when Addressed
9-12.D.2.4 Calculate and apply measures of variability (e.g., standard deviation).	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.5 Compare distributions of univariate data using back-to-back stem and leaf plots and parallel box and whisker plots.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.6 Describe the characteristics of a normal distribution.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.7 Compare and draw conclusions between two or more sets of univariate data using basic data analysis techniques and summary statistics.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.8 Describe the shape of a scatterplot.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.10 Use technological tools to find the line of best fit.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.11 Describe the relationship between two variables and determine its strength with and without technological tools.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May

9-12.D.2.12 Explain why correlation does not imply a cause-and-effect relationship.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.13 Use the results of simulations to explore the variability of sample statistics from a known population and construct sampling distributions.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.14 Describe how sample statistics, including the law of large numbers, reflect the values of population parameters and use sampling distributions as the basis for informal inference.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May
9-12.D.2.15 Evaluate published reports that are based on data by examining the design of the study, the appropriateness of the data analysis, and the validity of conclusions.	Module 3 (pp. 55 – 88)	KutaSoftware *Infinite Algebra 2*, *Scientific Notebook*, SIMMS manipulative set	April – May

Algebra 2 Math Curriculum Alignment with State Standards

District: Quemado Independent School District #2

Algebra 2 Textbook: SIMMS Integrated Mathematics Level 4

Strand: DATA ANALYSIS AND PROBABILITY	Standard: Students will understand how to formulate questions, analyze data, and determine probabilities.	9-12 Benchmark D.3: Understand and apply basic concepts of probability.

Algebra 2 Performance Standards	Algebra 2 Textbook Pages	Supplemental Materials	Month(s) when Addressed

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