



Girard USD 248 Curriculum Alignment



Unit Title *(Include month or date indicators are covered.)*

Q1-Algebra II

Unit Description

Unit 1-Basic Concepts of Algebra Unit 2-Inequalities and Proof Unit3-Linear Equations Unit4-Systems of Linear Equations Unit 5-Matrices/Encoding and Decoding Messages

Unit Indicators

Order	Indicator	Priority
1	1.4K1 computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)
1	4.2A1g uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these data displays: g. box-and-whiskers plots. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)
1	1.4K2h performs and explains these computational procedures: h. scalar-matrix multiplication. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)
1	2.4K1d knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: d. equations and inequalities to model numerical and geometric relationships. Add Lesson Plan... Upload Indicator Support Documents...	(Building Blocks)
1	2.3K6 recognizes how changes in the constant and/or slope within a linear function changes the appearance of a graph. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)

1	1.2A1c	generates and/or solves real-world problems with real numbers using the concepts of these properties to explain reasoning: c. symmetric property of equality.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1e	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: e. stem-and-leaf plots (single and double).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K2g	performs and explains these computational procedures: g. matrix addition.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.2K3b	names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects: b. identity properties for addition and multiplication and inverse properties of addition and multiplication (additive identity, multiplicative identity, additive inverse, multiplicative inverse).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4A1a	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: a. applications from business, chemistry, and physics that involve addition, subtraction, multiplication, division, squares, and square roots when the formulae are given as part of the problem and variables are defined.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1g	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: g. box-and-whiskers plots.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K3c	solves: c. systems of linear equations with two unknowns using integer coefficients and constants.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	1.1K2	compares and orders real numbers and/or algebraic expressions and explains the relative magnitude between them.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.4K8	explains the relationship between the solution(s) to systems of equations and systems of inequalities in two unknowns and their corresponding graphs.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3K5a	identifies domain and range of: a. relationships given the graph or table.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K4	explains the effects of outliers on the measures of central tendency (mean, median, mode) and range and interquartile range of a real number data set.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2A1	represents real-world problems using variables, symbols, expressions, equations, inequalities, and simple systems of linear equations.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1c	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: c. Venn diagrams or other pictorial displays.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.4K3	calculates the slope of a line from a list of ordered pairs on the line and explains how the graph of the line is related to its slope.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2A2c	represents and/or solves real-world problems with: c. systems of linear equations with two unknowns.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3K5b	identifies domain and range of: b. relationships given the graph or table.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	1.2A1b	generates and/or solves real-world problems with real numbers using the concepts of these properties to explain reasoning: b. identity and inverse properties of addition and multiplication.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.4K1f	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: f. coordinate planes to model relationships between ordered pairs and equations and inequalities and linear and quadratic functions.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2A5b	analyzes the effects of: b. changes within a real number data set on mean, median, mode, range, quartiles, and interquartile range.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.2K3e	names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects: e. zero product property (if $ab = 0$, then $a = 0$ and/or $b = 0$).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3A3b	analyzes: b. how changes in the constants and/or slope within a linear function affects the appearance of a graph.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.4K4	finds and explains the relationship between the slopes of parallel and perpendicular line.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3A2	interprets the meaning of the x- and y- intercepts, slope, and/or points on and off the line on a graph in the context of a real-world situation.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.2K3d	names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects: d. addition and multiplication properties of equality (if $a = b$, then $a + c = b + c$ and if $a = b$, then $ac = bc$) and inequalities (if $a > b$, then $a + c > b + c$ and if $a > b$, and $c > 0$ then $ac > bc$).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	2.2A2a	represents and/or solves real-world problems with: a. linear equations and inequalities both analytically and graphically.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2A1e	uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these data displays: e. stem-and-leaf plots (single and double).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.3K4	knows and explains between which two consecutive integers an irrational number lies.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.2A1a	generates and/or solves real-world problems with real numbers using the concepts of these properties to explain reasoning: a. commutative, associative, distributive, and substitution properties.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K3	calculates and explains the meaning of range, quartiles and interquartile range for a real number data set.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K3a	solves: a. linear equations and inequalities both analytically and graphically.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.4K6	recognizes the equation of a line and transforms the equation into slope-intercept form in order to identify the slope and y-intercept and uses this information to graph the line.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.2A1d	generates and/or solves real-world problems with real numbers using the concepts of these properties to explain reasoning: d. addition and multiplication properties of equality.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3K4	determines x- and y-intercepts and maximum and minimum values of the portion of the graph that is shown on a coordinate plane.	(Mastery)

		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.2A1e	generates and/or solves real-world problems with real numbers using the concepts of these properties to explain reasoning: e. zero product property.		(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4A1b	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: b. volume and surface area given the measurement formulas of rectangular solids and cylinders.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.2K2	identifies all the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] to which a given number belongs.		(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4K2a	performs and explains these computational procedures: a. addition, subtraction, multiplication, and division using the order of operations.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4K2c	performs and explains these computational procedures: c. manipulation of variable quantities within an equation or inequality.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.2K1	explains and illustrates the relationship between the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] using mathematical models.		(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.2K3a	names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects: a. commutative ($a + b = b + a$ and $ab = ba$), associative [$a + (b + c) = (a + b) + c$ and $a(bc) = (ab)c$], distributive [$a(b + c) = ab + ac$], and substitution properties (if $a = 2$, then $3a = 3 \times 2 = 6$).		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	

1	3.3A4	analyzes and explains transformations using such things as sketches and coordinate systems.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.4K1l	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: l. frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, histograms, and matrices to organize and display data.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2A5a	analyzes the effects of: a. outliers on the mean, median, and range of a real number data set.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.3K3	knows and explains why a decimal representation of an irrational number is an approximate value.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.2K3c	names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects: c. symmetric property of equality (if $a = b$, then $b = a$).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K2	manipulates variable quantities within an equation or inequality.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K3e	solves: e. equations where the solution to a rational equation can be simplified as a linear equation with a nonzero denominator.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
Upload Unit Support Documents...			



Girard USD 248 Curriculum Alignment



Unit Title *(Include month or date indicators are covered.)*

Q2-Algebra II

Unit Description

Unit 5-Matrices/Encoding and Decoding Messages Unit 6-Products and Factors of Polynomials Unit 7-Rational Expressions Unit 8-Irrational and Complex Numbers

Unit Indicators

Order	Indicator	Priority
1	2.3K8 evaluates function(s) given a specific domain. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)
1	1.4K2f performs and explains these computational procedures: f. simplification of products and quotients of real number and algebraic monomial expressions using the properties of exponents. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)
1	1.4K1 computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)
1	4.2A1g uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these data displays: g. box-and-whiskers plots. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)
1	1.4K2h performs and explains these computational procedures: h. scalar-matrix multiplication. Add Lesson Plan... Upload Indicator Support Documents...	(Mastery)

1	1.4A2d	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: d. application of percents.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1e	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: e. stem-and-leaf plots (single and double).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.4K1b	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: b. factor trees to model least common multiple, greatest common factor, and prime factorization.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K2g	performs and explains these computational procedures: g. matrix addition.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4A1a	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: a. applications from business, chemistry, and physics that involve addition, subtraction, multiplication, division, squares, and square roots when the formulae are given as part of the problem and variables are defined.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1g	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: g. box-and-whiskers plots.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K3c	solves: c. systems of linear equations with two unknowns using integer coefficients and constants.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	3.4K8	explains the relationship between the solution(s) to systems of equations and systems of inequalities in two unknowns and their corresponding graphs.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3K5a	identifies domain and range of: a. relationships given the graph or table.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K4	explains the effects of outliers on the measures of central tendency (mean, median, mode) and range and interquartile range of a real number data set.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.1K3c	knows and explains what happens to the product or quotient when a real number is multiplied or divided by: c. a rational number less than zero.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2A1	represents real-world problems using variables, symbols, expressions, equations, inequalities, and simple systems of linear equations.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2A2c	represents and/or solves real-world problems with: c. systems of linear equations with two unknowns.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3A1	translates between the numerical, graphical, and symbolic representations of functions.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2A5b	analyzes the effects of: b. changes within a real number data set on mean, median, mode, range, quartiles, and interquartile range.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K3f	solves: f. equations and inequalities with absolute value quantities containing one variable with a special emphasis on using a number line and the concept of absolute value.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	1.1K3a	knows and explains what happens to the product or quotient when a real number is multiplied or divided by: a. a rational number greater than zero and less than one.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K2d	performs and explains these computational procedures: d. simplification of radical expressions (without rationalizing denominators) including square roots of perfect square monomials and cube roots of perfect cubic monomials.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.1K1c	identifies, states, and continues the following patterns using various formats including numeric (list or table), algebraic (symbolic notation), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), and written: c. algebraic patterns including consecutive number patterns or equations of functions.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3K7	uses function notation.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2A1e	uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these data displays: e. stem-and-leaf plots (single and double).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.1K1	knows, explains, and uses equivalent representations for real numbers and algebraic expressions including integers, fractions, decimals, percents, ratios; rational number bases with integer exponents; rational numbers written in scientific notation; absolute value; time; and money.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K3	calculates and explains the meaning of range, quartiles and interquartile range for a real number data set.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K3a	solves: a. linear equations and inequalities both analytically and graphically.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	2.3K9	describes the difference between independent and dependent variables and identifies independent and dependent variables.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2A2e	represents and/or solves real-world problems with: e. a rational equation where the solution can be simplified as a linear equation with a nonzero denominator.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.4K1e	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: e. function tables to model numerical and algebraic relationships.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.1K3b	knows and explains what happens to the product or quotient when a real number is multiplied or divided by: b. a rational number greater than one.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K2a	performs and explains these computational procedures: a. addition, subtraction, multiplication, and division using the order of operations.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K2c	performs and explains these computational procedures: c. manipulation of variable quantities within an equation or inequality.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K1	knows and explains the use of variables as parameters for a specific variable situation.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K2e	performs and explains these computational procedures: e. simplification or evaluation of real numbers and algebraic monomial expressions raised to a whole number power and algebraic binomial expressions squared or cubed.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K3	finds prime factors, greatest common factor, multiples, and the least common multiple of algebraic expressions.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	2.4K1l	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: l. frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, histograms, and matrices to organize and display data.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2A5a	analyzes the effects of: a. outliers on the mean, median, and range of a real number data set.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K2	manipulates variable quantities within an equation or inequality.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
Upload Unit Support Documents...			

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Girard USD 248 Curriculum Alignment



Unit Title *(Include month or date indicators are covered.)*

Q3-Algebra II

Unit Description

Unit 8-Irrational and Complex Numbers Unit 9-Quadratic Equations and Functions Unit 10-Polynomial Equations Unit 11-Amortization Unit

Unit Indicators

Order	Indicator	Priority
1	<p>2.3A3c analyzes: c. how changes in the constants and/or coefficients within a quadratic function in the form of $y = ax^2 + c$ affects the appearance of a graph.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Building Blocks)
1	<p>2.3K8 evaluates function(s) given a specific domain.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Mastery)
1	<p>1.4K1 computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Mastery)
1	<p>4.2A1g uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these data displays: g. box-and-whiskers plots.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Mastery)
1	<p>3.4A1 represents, generates, and/or solves real-world problems that involve distance and two-dimensional geometric figures including parabolas in the form $ax^2 + c$.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Building Blocks)

1	1.4A2d	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: d. application of percents.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3K1	evaluates and analyzes functions using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1e	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: e. stem-and-leaf plots (single and double).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.4K1b	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: b. factor trees to model least common multiple, greatest common factor, and prime factorization.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4A1a	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: a. applications from business, chemistry, and physics that involve addition, subtraction, multiplication, division, squares, and square roots when the formulae are given as part of the problem and variables are defined.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1g	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: g. box-and-whiskers plots.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.4K2	determines if a given point lies on the graph of a given line or parabola without graphing and justifies the answer.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	2.3K5a	identifies domain and range of: a. relationships given the graph or table.	(Mastery)
	Add Lesson Plan...	Upload Indicator Support Documents...	
1	4.2K4	explains the effects of outliers on the measures of central tendency (mean, median, mode) and range and interquartile range of a real number data set.	(Mastery)
	Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.3A1	adjusts original rational number estimate of a real-world problem based on additional information (a frame of reference).	(Mastery)
	Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.2K3b	solves: b. quadratic equations with integer solutions (may be solved by trial and error, graphing, quadratic formula, or factoring).	(Mastery)
	Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4A2e	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: e. simple exponential growth and decay (excluding logarithms) and economics.	(Building Blocks)
	Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.3K3	determines whether a graph, list of ordered pairs, table of values, or rule represents a function.	(Mastery)
	Add Lesson Plan...	Upload Indicator Support Documents...	
1	4.2K1c	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: c. Venn diagrams or other pictorial displays.	(Building Blocks)
	Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.3K5b	identifies domain and range of: b. relationships given the graph or table.	(Mastery)
	Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.3A1	translates between the numerical, graphical, and symbolic representations of functions.	(Building Blocks)

		Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.3K2	matches equations and graphs of constant and linear functions and quadratic functions limited to $y = ax^2 + c$.		(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.2A2b	represents and/or solves real-world problems with: b. quadratic equations with integer solutions (may be solved by trial and error, graphing, quadratic formula, or factoring).		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	4.2A5b	analyzes the effects of: b. changes within a real number data set on mean, median, mode, range, quartiles, and interquartile range.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	3.4A3	recognizes and explains the effects of scale changes on the appearance of the graph of an equation involving a line or parabola.		(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.3K7	uses function notation.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	4.2A1e	uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these data displays: e. stem-and-leaf plots (single and double).		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.3K4	knows and explains between which two consecutive integers an irrational number lies.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.1K1	knows, explains, and uses equivalent representations for real numbers and algebraic expressions including integers, fractions, decimals, percents, ratios; rational number bases with integer exponents; rational numbers written in scientific notation; absolute value; time; and money.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	

1	4.2K3	calculates and explains the meaning of range, quartiles and interquartile range for a real number data set.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K3d	solves: d. radical equations with no more than one inverse operation around the radical expression.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2A2d	represents and/or solves real-world problems with: d. radical equations with no more than one inverse operation around the radical expression.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.4A4	analyzes how changes in the constants and/or leading coefficients within the equation of a line or parabola affects the appearance of the graph of the equation.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3K9	describes the difference between independent and dependent variables and identifies independent and dependent variables.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.4K1e	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: e. function tables to model numerical and algebraic relationships.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.3K4	determines x- and y-intercepts and maximum and minimum values of the portion of the graph that is shown on a coordinate plane.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K2a	performs and explains these computational procedures: a. addition, subtraction, multiplication, and division using the order of operations.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4K2c	performs and explains these computational procedures: c. manipulation of variable quantities within an equation or inequality.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...

1	3.4K7	recognizes the equation $y = ax^2 + c$ as a parabola; represents and identifies characteristics of the parabola including opens upward or opens downward, steepness (wide/narrow), the vertex, maximum and minimum values, and line of symmetry; and sketches the graph of the parabola.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K1	knows and explains the use of variables as parameters for a specific variable situation.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.4K1l	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: l. frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, histograms, and matrices to organize and display data.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.3A4	analyzes and explains transformations using such things as sketches and coordinate systems.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2A5a	analyzes the effects of: a. outliers on the mean, median, and range of a real number data set.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K3e	solves: e. equations where the solution to a rational equation can be simplified as a linear equation with a nonzero denominator.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2K2	manipulates variable quantities within an equation or inequality.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.3K3	knows and explains why a decimal representation of an irrational number is an approximate value.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
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Girard USD 248 Curriculum Alignment



Unit Title *(Include month or date indicators are covered.)*

Q4-Algebra II

Unit Description

Unit 11-Amortization Unit Unit 12-Exponential and Logarithmic Functions Unit 13-Triangle Trigonometry

Unit Indicators

Order	Indicator	Priority
1	<p>3.2K4a states, recognizes, and applies formulas for: a. perimeter and area of squares, rectangle, and triangles.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Mastery)
1	<p>2.2K3g solves: g. exponential equations with the same base without the aid of a calculator or computer.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Mastery)
1	<p>1.4K1 computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Mastery)
1	<p>4.2A1g uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these data displays: g. box-and-whiskers plots.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Mastery)
1	<p>3.1A1b solves real-world problems by: b. applying the Pythagorean Theorem.</p> <p>Add Lesson Plan... Upload Indicator Support Documents...</p>	(Mastery)
1	<p>2.4K1d knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: d. equations and</p>	(Building Blocks)

		inequalities to model numerical and geometric relationships.	
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4A2d	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: d. application of percents.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1e	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: e. stem-and-leaf plots (single and double).	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.2A1b	solves real-world problems by: b. finding the perimeter and the area of circles, squares, rectangles, triangles, parallelograms, and trapezoids.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.4A1a	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: a. applications from business, chemistry, and physics that involve addition, subtraction, multiplication, division, squares, and square roots when the formulae are given as part of the problem and variables are defined.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K1g	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: g. box-and-whiskers plots.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.1K5b	uses the Pythagorean Theorem to: b. find a missing side of a right triangle.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K4	explains the effects of outliers on the measures of central tendency (mean, median, mode) and range and interquartile range of a real number data set.	(Mastery)

		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.3A1	adjusts original rational number estimate of a real-world problem based on additional information (a frame of reference).		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4A2e	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: e. simple exponential growth and decay (excluding logarithms) and economics.		(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	3.4K5	uses the Pythagorean Theorem to find distance (may use the distance formula).		(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	4.2K1c	organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays: c. Venn diagrams or other pictorial displays.		(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	4.2A5b	analyzes the effects of: b. changes within a real number data set on mean, median, mode, range, quartiles, and interquartile range.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4K2d	performs and explains these computational procedures: d. simplification of radical expressions (without rationalizing denominators) including square roots of perfect square monomials and cube roots of perfect cubic monomials.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.3K7	uses function notation.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	4.2A1e	uses data analysis (mean, median, mode, range, quartile, interquartile range) in real-world problems with rational number data sets to compare and contrast two sets of data, to make accurate inferences and predictions, to analyze decisions, and to develop convincing arguments from these		(Mastery)

		data displays: e. stem-and-leaf plots (single and double).	
		Add Lesson Plan...	Upload Indicator Support Documents...
1	1.1K1	knows, explains, and uses equivalent representations for real numbers and algebraic expressions including integers, fractions, decimals, percents, ratios; rational number bases with integer exponents; rational numbers written in scientific notation; absolute value; time; and money.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.2A1d	solves real-world problems by: d. using the Pythagorean theorem.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	4.2K3	calculates and explains the meaning of range, quartiles and interquartile range for a real number data set.	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.2K1	determines and uses real number approximations (estimations) for length, width, weight, volume, temperature, time, distance, perimeter, area, surface area, and angle measurement using standard and nonstandard units of measure.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.2K5	uses given measurement formulas to find perimeter, area, volume, and surface area of two- and three-dimensional figures (regular and irregular).	(Building Blocks)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	2.2A2e	represents and/or solves real-world problems with: e. a rational equation where the solution can be simplified as a linear equation with a nonzero denominator.	(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.4K1	recognizes and examines two- and three-dimensional figures and their attributes including the graphs of functions on a coordinate plane using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology.	
		Add Lesson Plan...	Upload Indicator Support Documents...
1	3.1K6b	recognizes and describes: b. the ratios of the sides in special right triangles: 30° - 60° - 90° and 45° - 45° - 90° .	(Mastery)

		Add Lesson Plan...	Upload Indicator Support Documents...	
1	3.1K5a	uses the Pythagorean Theorem to: a. determine if a triangle is a right triangle.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4A1b	generates and/or solves multi-step real-world problems with real numbers and algebraic expressions using computational procedures (addition, subtraction, multiplication, division, roots, and powers excluding logarithms), and mathematical concepts with: b. volume and surface area given the measurement formulas of rectangular solids and cylinders.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4K2a	performs and explains these computational procedures: a. addition, subtraction, multiplication, and division using the order of operations.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	1.4K2c	performs and explains these computational procedures: c. manipulation of variable quantities within an equation or inequality.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	3.2K2	selects and uses measurement tools, units of measure, and level of precision appropriate for a given situation to find accurate real number representations for length, weight, volume, temperature, time, distance, area, surface area, mass, midpoint, and angle measurements.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	3.2K4b	states, recognizes, and applies formulas for: b. circumference and area of circles; volume of rectangular solids.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	4.2A5a	analyzes the effects of: a. outliers on the mean, median, and range of a real number data set.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	
1	2.2K3e	solves: e. equations where the solution to a rational equation can be simplified as a linear equation with a nonzero denominator.		(Mastery)
		Add Lesson Plan...	Upload Indicator Support Documents...	

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