

Algebra II CR

State Standard Number	State Standard Area/Description	Unit Name	Course Topic Description
N	Number and Operations		
N.1	Understand numbers, ways of representing numbers, relationships among numbers and number systems		
N.1.A	compare and order rational and irrational numbers, including finding their approximate locations on a number line	Linear and Quadratic Functions	Writing and Graphing Linear Equations and Inequalities
N.1.B	use real numbers and various models, drawing, etc. to solve problems	Trigonometric Functions	Right Triangle Trigonometry
N.1.C	use a variety of representations to demonstrate an understanding of very large and very small numbers		
N.2	Understand meanings of operations and how they relate to one another		
N.2.D	apply operations to matrices and complex numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases	Systems of Equations and Inequalities	Matrices and Determinants
N.3	Compute fluently and make reasonable estimates		
N.3.D	judge the reasonableness of numerical computations and their results, including complex numbers	Linear and Quadratic Functions	Solving Quadratic Equations and Inequalities

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N.3.E	solve problems involving proportions	Rational Functions	Direct and Inverse Variation
A	Algebraic Relationships		
A.1	Understand patterns, relations and functions		
A.1.B	generalize patterns using explicitly or recursively defined functions	Linear and Quadratic Functions	Functions and Relations
A.1.C	compare and contrast various forms of representations of patterns		
A.1.D	compare properties of linear, exponential, logarithmic and rational functions	Linear and Quadratic Functions Rational Functions Exponential and Logarithmic Functions	Writing and Graphing Linear Equations and Inequalities Graphing Rational Functions and Domain and Range Comparing Exponential and Logarithmic Functions

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A.1.E	describe the effects of parameter changes on functions	Linear and Quadratic Functions	Functions and Relations
A.2	Represent and analyze mathematical situations and structures using algebraic symbols		
A.2.A	use symbolic algebra to represent and solve problems that involve exponential, quadratic and logarithmic relationships	Exponential and Logarithmic Functions Linear and Quadratic Functions	Solving Exponential and Logarithmic Equations Solving Quadratic Equations and Inequalities
A.2.B	describe and use algebraic manipulations, inverse or composition of functions	Linear and Quadratic Functions	Functions and Relations
A.2.C	use and solve equivalent forms of equations and inequalities	Linear and Quadratic Functions	Solving Quadratic Equations and Inequalities
A.2.D	use and solve systems of linear and quadratic equations or inequalities with 2 variables	Solving Systems of Equations and Inequalities	Systems of Equations Systems of Inequalities
A.3	Use mathematical models to represent and understand quantitative relationships		
A.3.A	identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem		

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A.4	Analyze change in various contexts		
A.4.A	analyze exponential and logarithmic functions by investigating rates of change, intercepts and asymptotes	Exponential and Logarithmic Functions	Comparing Exponential and Logarithmic Functions
G	Geometric and Spatial Relationships		
G.1	Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships		
G.1.A	use trigonometric relationships with right triangles to determine lengths and angle measures	Trigonometric Functions	Right Triangle Trigonometry
G.3	Apply transformations and use symmetry to analyze mathematical situations		
G.3.B	translate, dilate and reflect functions		
G.4	Use visualization, spatial reasoning and geometric modeling to solve problems		

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G.4.B	draw or use visual models to represent and solve problems	Conic Sections	Introduction to Conic Sections
M	Measurement		
M.2	Apply appropriate techniques, tools and formulas to determine measurements		
M.2.D	apply concepts of successive approximation		
M.2.E	use unit analysis to solve problems involving rates, such as speed, density or population density		
D	Data and Probability		
D.1	Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them		
D.1.C	select and use appropriate graphical representation of data and given one-variable quantitative data, describe its shape and calculate summary statistics		

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D.2	Select and use appropriate statistical methods to analyze data		
D.2.A	apply statistical measures of center to solve problems	Probability and Statistics	Determining Probability
D.2.C	given a scatterplot, determine a type of function which models the data	Probability and Statistics	Scatter Plots and Lines of Best Fit Scatter Plots and Curves of Best Fit
D.4	Understand and apply basic concepts of probability		
D.4.A	describe the concepts of sample space and probability distribution	Probability and Statistics	Sampling Methods and Experimental Designs
D.4.B	use and describe the concepts of conditional probability and independent events and how to compute the probability of a compound event	Probability and Statistics	Determining Probability