

Algebra I 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	Real Numbers	Rational Numbers
N.1.B	use real numbers and various models, drawing, etc. to solve problems	Solving Systems	The Matrix
N.1.C	use a variety of representations to demonstrate an understanding of very large and very small numbers	Polynomials	Scientific Notation
N.2	Understand meanings of operations and how they relate to one another		
N.2.B	describe the effects of operations, such as multiplication, division, and computing powers and roots on the magnitude of quantities		
N.2.D	apply operations to real numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases	Numbers and Expressions	Some Useful Properties
N.3	Compute fluently and make reasonable estimates		
N.3.D	judge the reasonableness of numerical computations and their results	Numbers and Expressions	Logic and Graphs

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N.3.E	solve problems involving proportions	Equations	Proportions and Percent
A	Algebraic Relationships		
A.1	Understand patterns, relations and functions		
A.1.B	generalize patterns using explicitly or recursively defined functions	Functions and Linear Equations	Patterns and Sequences
A.1.C	compare and contrast various forms of representations of patterns	Functions and Linear Equations	Patterns and Sequences
A.1.D	understand and compare the properties of linear and nonlinear functions	Functions and Linear Equations Quadratics and Radicals	Graphing Linear Functions Quadratic Functions
A.1.E	describe the effects of parameter changes on linear, exponential growth/decay and quadratic functions including intercepts	Functions and Linear Equations Quadratics and Radicals Exponentials	Graphing Linear Functions Quadratic Functions Growth and Decay
A.2	Represent and analyze mathematical situations and structures using algebraic symbols		

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A.2.A	use symbolic algebra to represent and solve problems that involve linear and quadratic relationships including equations and inequalities	Functions and Linear Equations Quadratics and Radicals Inequalities	Graphing Linear Functions Quadratic Functions Simple Inequalities
A.2.B	describe and use algebraic manipulations, including factoring and rules of integer exponents and apply properties of exponents (including order of operations) to simplify expressions	Quadratics and Radicals Numbers and Expressions	Solving Quadratic Equations Exponents and Roots
A.2.C	use and solve equivalent forms of equations (linear, absolute value, and quadratic)	Functions and Linear Equations Quadratics and Radicals	Linear Equations Formulas and Absolute Value Solving Quadratic Equations
A.2.D	use and solve systems of linear equations or inequalities with 2 variables	Solving Systems	Solving Systems
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		
A.4	Analyze change in various contexts		
A.4.A	analyze linear and quadratic functions by investigating rates of change, intercepts and zeros		

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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.B	apply geometric properties such as similarity and angle relationship to solve multi-step problems in 2 dimensions		
G.4	Use visualization, spatial reasoning and geometric modeling to solve problems		
G.4.B	draw or use visual models to represent and solve problems	Solving Systems	The Matrix
M	Measurement		
M.2	Apply appropriate techniques, tools and formulas to determine measurements		
M.2.D	describe the effects of operations, such as multiplication, division and computing powers and roots on magnitudes of quantities and effects of computation on precision which include the judging of reasonableness of numerical computations and their results		

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M.2.E	use unit analysis to solve problems		
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.A	formulate questions and collect data about a characteristic which include sample spaces and distributions		
D.1.C	select and use appropriate graphical representation of data and given one-variable quantitative data, display the distribution and describe its shape		
D.2	Select and use appropriate statistical methods to analyze data		
D.2.A	apply statistical measures of center to solve problems	Solving Systems	Statistics
D.2.C	given a scatterplot, determine an equation for a line of best fit		

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D.3	Develop and evaluate inferences and predictions that are based on data		
D.3.A	make conjectures about possible relationships between 2 characteristics of a sample on the basis of scatter plots of the data		