

## Algebra 1 CR

State Standard Number	State Standard Area/Description	Unit Name	Course Topic Description
EA-1	The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.	Unit 1, Section 5 Unit 2, Section 5 Unit 3, Section 5	Logic and Graphs Closure Properties of Equality Problem Solving
EA-1.1	Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.	Unit 1, Section 1 Unit 1, Section 2 Unit 3, Section 1 Unit 3, Section 2	Evaluating Expressions Some Useful Properties Equations Multi-Step Equations
EA-1.2	Connect algebra with other branches of mathematics.	Unit 3, Section 1 Unit 6, Section 5 Unit 8, Section 3	Equations Statistics Radicals
EA-1.3	Apply algebraic methods to solve problems in real-world contexts.	Unit 1, Section 2 Unit 3, Section 3 Unit 3, Section 5 Unit 6, Section 2	Some Useful Properties Proportions and Percent Problem Solving Solving Systems
EA-1.4	Judge the reasonableness of mathematical solutions.	Unit 2, Section 5	Closure Properties of Equality
EA-1.5	Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).	Unit 3, Section 1 Unit 3, Section 2 Unit 3, Section 3 Unit 3, Section 4 Unit 3, Section 5	Equations Multi-Step Problems Proportions and Percent Formulas and Absolute Value Problem Solving
EA-1.6	Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.	Unit 3, Section 1 Unit 3, Section 5	Equations Problem Solving
EA-1.7	Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).		

## Algebra 1 CR

EA-2	The student will demonstrate through the mathematical processes an understanding of the real number system and operations involving exponents, matrices, and algebraic expressions.	Unit 1, Section 1 Unit 1, Section 4 Unit 2, Section 1 Unit 6, Section 4	Algebraic Expressions Exponents and Roots Rational Numbers The Matrix
EA-2.1	Exemplify elements of the real number system (including integers, rational numbers, and irrational numbers).	Unit 2, Section 1	Rational Numbers
EA-2.2	Apply the laws of exponents and roots to solve problems.	Unit 1, Section 4	Exponents and Roots
EA-2.3	Carry out a procedure to perform operations (including multiplication and division) with numbers written in scientific notation.	Unit 7, Section 1	Scientific Notation
EA-2.4	Use dimensional analysis to convert units of measure within a system.	Unit 3, Section 5	Problem Solving

## Algebra 1 CR

EA-2.5	Carry out a procedure using the properties of real numbers (including commutative, associative, and distributive) to simplify expressions.	Unit 1, Section 2	Some Useful Properties
EA-2.6	Carry out a procedure to evaluate an expression by substituting a value for the variable.	Unit 1, Section 1	Evaluating Expressions
EA-2.7	Carry out a procedure (including addition, subtraction, multiplication, and division by a monomial) to simplify polynomial expressions.	Unit 7, Section 2, Unit 7, Section 3	Add and Subtract Polynomials, Multiply Polynomials
EA-2.8	Carry out a procedure to factor binomials, trinomials, and polynomials by using various techniques (including the greatest common factor, the difference between two squares, and quadratic trinomials).	Unit 7, Section 4 Unit 7, Section 5 Unit 7, Section 6	Factors and GCF Factoring Trinomials Special Factors

## Algebra 1 CR

EA-2.9	Carry out a procedure to perform operations with matrices (including addition, subtraction, and scalar multiplication).	Unit 6, Section 4	The Matrix
EA-2.10	Represent applied problems by using matrices.	Unit 6, Section 4	The Matrix
t	The student will demonstrate through the mathematical processes an understanding of relationships and functions.	Unit 4, Section 1	Functions and Linear Equations
EA-3.1	Classify a relationship as being either a function or not a function when given data as a table, set of ordered pairs, or graph.	Unit 4, Section 4	Linear Equations
EA-3.2	Use function notation to represent functional relationships.	Unit 4, Section 4	Linear Equations

## Algebra 1 CR

EA-3.3	Carry out a procedure to evaluate a function for a given element in the domain.	Unit 4, Section 1	The Coordinate Plane and Relations
EA-3.4	Analyze the graph of a continuous function to determine the domain and range of the function.		
EA-3.5	Carry out a procedure to graph parent functions (including $y = x$ , $y = x^2$ , $y =$ the square root of $x$ , $y =$ the absolute value of $x$ , and $y = 1/x$ ).		
EA-3.6	Classify a variation as either direct or inverse.	Unit 9, Section 1	Inverse Variation
EA-3.7	Carry out a procedure to solve literal equations for a specified variable.	Unit 3, Section 4	Formulas and Absolute Value
EA-3.8	Apply proportional reasoning to solve problems.	Unit 3, Section 3	Proportions and percent

## Algebra 1 CR

EA-4	The student will demonstrate through the mathematical processes an understanding of the procedures for writing and solving linear equations and inequalities.	Unit 4, Section 4 Unit 5, Section 4	Linear Equations Graphing Inequalities in Two Variables
EA-4.1	Carry out a procedure to write an equation of a line with a given slope and a y-intercept.	Unit 4, Section 4	Linear Equations
EA-4.2	Carry out a procedure to write an equation of a line with a given slope passing through a given point.	Unit 4, Section 4	Linear Equations
EA-4.3	Carry out a procedure to write an equation of a line passing through two given points.	Unit 4, Section 4	Linear Equations
EA-4.4	Use a procedure to write an equation of a trend line from a given scatterplot.	Unit 4, Section 5	Data
EA-4.5	Analyze a scatterplot to make predictions.	Unit 4, Section 5	Data
EA-4.6	Represent linear equations in multiple forms (including point-slope, slope-intercept, and standard).	Unit 4, Section 4	Linear Equations
EA-4.7	Carry out procedures to solve linear equations for one variable algebraically.	Unit 4, Section 4	Linear Equations
EA-4.8	Carry out procedures to solve linear inequalities for one variable algebraically and then to graph the solution.	Unit 4, Section 4	Linear Equations
EA-4.9	Carry out a procedure to solve systems of two linear equations graphically.	Unit 6, Section 1	Systems of Equations
EA-4.10	Carry out a procedure to solve systems of two linear equations algebraically.	Unit 6, Section 2	Solving Systems
EA-5	The student will demonstrate through the mathematical processes an understanding of the graphs and characteristics of linear equations and inequalities.	Unit 4, Section 4 Unit 4, Section 5 Unit 5, Section 4	Linear Equations, Data, Graphing Inequalities in Two Variables
EA-5.1	Carry out a procedure to graph a line when given the equation of the line.	Unit 4, Section 4 Unit 4, Section 5	Linear Equations Data
EA-5.2	Analyze the effects of changes in the slope, $m$ , and the y-intercept, $b$ , on the graph of $y = mx + b$ .		

## Algebra 1 CR

EA-5.3	Carry out a procedure to graph the line with a given slope and a y-intercept.	Unit 4, Section 4	Linear Equations
EA-5.4	Carry out a procedure to graph the line with a given slope passing through a given point.	Unit 4, Section 4	Linear Equations
EA-5.5	Carry out a procedure to determine the x-intercept and y-intercept of lines from data given tabularly, graphically, symbolically, and verbally.	Unit 4, Section 2	Graphing Linear Equations
EA-5.6	Carry out a procedure to determine the slope of a line from data given tabularly, graphically, symbolically, and verbally.	Unit 4, Section 5	Data
EA-5.7	Apply the concept of slope as a rate of change to solve problems.	Unit 4, Section 4 Unit 4, Section 5	Linear Equations Data
EA-5.8	Analyze the equations of two lines to determine whether the lines are perpendicular or parallel.	Unit 4, Section 4	Linear Equations
EA-5.9	Analyze given information to write a linear function that models a given problem situation.	Unit 4, Section 5	Data
EA-5.10	Analyze given information to determine the domain and range of a linear function in a problem situation.	Unit 4, Section 1	Linear Equations and Relations
EA-5.11	Analyze given information to write a system of linear equations that models a given problem situation.	Unit 6, Section 1 Unit 6, Section 2	Systems of Equations Solving Systems
EA-5.12	Analyze given information to write a linear inequality in one variable that models a given problem situation.	Unit 5, Section 1	Simple Inequalities
EA-6	The student will demonstrate through the mathematical processes an understanding of quadratic relationships and functions.	Unit 8, Section 1 Unit 8, Section 2	Quadratic Functions Solving Quadratic Equations
EA-6.1	Analyze the effects of changing the leading coefficient $a$ on the graph of $y = ax^2$ .	Unit 8, Section 1	Quadratic Functions
EA-6.2	Analyze the effects of changing the constant $c$ on the graph of $y = x^2 + c$ .		
EA-6.3	Analyze the graph of a quadratic function to determine its equation.	Unit 8, Section 1	Quadratic Functions
EA-6.4	Carry out a procedure to solve quadratic equations by factoring.	Unit 7, Section 4 Unit 7, Section 5	Factors and GCF Factoring Trinomials



## Algebra 1 CR

		Unit 7, Section 6	Special Factors
EA-6.5	Carry out a graphic procedure to approximate the solutions of quadratic equations.	Unit 8, Section 1	Quadratic Functions
EA-6.6	Analyze given information to determine the domain of a quadratic function in a problem situation.		