



Algebra II Standard

The *CareerTech* Algebra II Standard is provided as a framework for teachers, administrators, students, and parents. Algebra II is a rigorous curriculum that challenges the motivated student. This course will prepare students for upper division mathematics courses and is essential for a better understanding of mathematical applicability. A committee of Highly Qualified instructors identified Algebra II objectives needed for the college-bound and/or well-equipped 21st century work-ready student. These were correlated with Oklahoma Algebra II PASS Objectives (Priority Academic Student Skills) and NCTM (National Council of Teachers of Mathematics) Content and Process Standards.

Course Description:

This course will enhance and expand the mathematical foundations of Algebra I and Geometry. The course will stress the fundamental extension of previous mathematics and the preparation for future higher-level mathematics courses. It will involve operations with real and complex numbers as well as matrices. The problem solving processes will use functions and relations. Within the course applications of math and while satisfying predictions based on a set of data, the use of data analysis, and statistics will be justified. Students who master *CareerTech* Algebra II will gain experience with quadratic functions, logarithmic and exponential functions, linear functions, solution methods for systems of linear functions, and matrix operations. The prerequisites for this course are Algebra I and Geometry.

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Innovative Initiatives Division
For the
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Requirements for College Admission Status (Title 70 O.S. § 11-103.6)

These courses are to be taught by a highly qualified teacher with an Oklahoma Intermediate or Advanced Mathematics teaching certification. The students should be in the eleventh or twelfth grade or if a sophomore, they should be in a Focused Field of Career Study program. The course will have at a minimum, but may exceed, a duration of 120 hours within a school year.



Algebra II

Objective	National Council of Teachers of Mathematics 9-12 Standards	Oklahoma Algebra II Content and Process PASS Standards
Equations and Inequalities		
<ul style="list-style-type: none"> Use a number line to graph and order real numbers and identify properties of and use operations with real numbers. 	Numbers & Operations Algebra Measurement	Content 1.3a, 1.3b, 3.2a, 3.2b, 3.2c, 3.2d Process 1.1, 1.2, 2.1, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Evaluate and simplify algebraic expressions in order to solve linear equations. 	Numbers & Operations Algebra Measurement	Content 1.3a, 1.3b, 3.2a, 3.2b, 3.2c, 3.2d Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.2, 5.1
<ul style="list-style-type: none"> Rewrite equations with more than one variable, including formulas, to set up and solve real-life problems. 	Numbers & Operations Algebra Measurement	Content 1.3a, 1.3b, 3.1a, 3.1b, 3.1c, 3.2a, 3.2b, 3.2c, 3.2d, 3.3 Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 4.4, 5.1
<ul style="list-style-type: none"> Use a five-step method for problem solving along with drawing a model or searching for a pattern. 	Numbers & Operations Algebra Measurement	Content 1.3a, 1.3b, 3.1a, 3.1b, 3.1c, 3.2a, 3.2b, 3.2c, 3.2d, 3.3 Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 4.4, 5.1

<ul style="list-style-type: none"> Solve compound inequalities. 	Numbers & Operations Algebra Measurement	Content 2.1a, 2.2a, 2.2b 2.2c, 2.7a Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.2, 5.1
<ul style="list-style-type: none"> Solve absolute value equations and inequalities. 	Numbers & Operations Algebra Measurement	Content 1.2b, 2.7a Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.2, 5.1
<ul style="list-style-type: none"> Use absolute value equations and inequalities to solve real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 1.2b, 2.7a 2.7b, 2.7c, 2.7d, 3.1a, 3.1b, 3.1c Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
Linear Equations and Functions		
<ul style="list-style-type: none"> Identify and represent relations and functions. 	Numbers & Operations Algebra	Content 1.3a, 1.3b, 2.1a, 2.1b, 2.1c, 2.1d, 2.1e, 2.2a, 2.2b, 2.2c, 2.5a, 2.5b, 2.5c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.2, 5.1
<ul style="list-style-type: none"> Graph and evaluate linear functions. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Find the slope of a line and identify parallel and perpendicular lines from their slopes in order to understand slope as a rate of change. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1

<ul style="list-style-type: none"> Graph linear equations using both slope-intercept and standard forms in order to identify and graph horizontal and vertical lines 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2
<ul style="list-style-type: none"> Write direct variation equations. 	Numbers & Operations Algebra	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Explore positive and negative correlation using scatter plots and best-fitting lines. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Represent piecewise functions. 	Numbers & Operations Algebra Measurement	Content 1.2b, 2.1b, 2.1c, 2.1d, 2.7a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use piecewise functions to model real-life quantities. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 3.2a, 3.2b, 3.1c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Represent absolute value functions. 	Numbers & Operations Algebra Measurement	Content 2.1b, 2.1c, 2.1d Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use absolute value functions to model real-life situations. 	Numbers & Operations Algebra Measurement	Content 3.2a, 3.2b, 3.2c, 3.2d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3

Systems of Linear Equations and Inequalities		
<ul style="list-style-type: none"> Solve systems of two linear equations in two variables algebraically and by graphing. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.1b, 2.1c, 2.1d, 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Graph a system of linear inequalities to find the solutions of the system. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.1b, 2.1c, 2.1d, 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2
<ul style="list-style-type: none"> Use systems of linear inequalities to solve real-life problems. 	Numbers & Operations Algebra Measurement	Content 2.1b, 2.1c, 2.1d, 2.1e, 2.2a, 2.2b, Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use linear programming to solve real-life optimization problems. 	Numbers & Operations Algebra Measurement	Content 2.1b, 2.1c, 2.1d, 2.1e, 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Graph and solve algebraically linear equations in three variables and consider the related functions of two variables using real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.1b, 2.1c, 2.1d, 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2, 5.3

Matrices and Determinants		
<ul style="list-style-type: none"> Add and subtract matrices, multiply a matrix by a scalar, and solve matrix equations. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1
<ul style="list-style-type: none"> Use matrices to solve real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Multiply two matrices. 	Numbers & Operations Algebra	Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use matrix multiplications in real-life situations. 	Numbers & Operations Algebra Measurement	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Evaluate determinants of 2X2 and 3X3 matrices. 	Numbers & Operations Algebra	Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use Cramer's rule to solve systems of linear equations. 	Numbers & Operations Algebra Measurement	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Find and use inverse matrices. 	Numbers & Operations Algebra	Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use inverse matrices in real-life situations. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3

<ul style="list-style-type: none"> Solve systems of linear equations using inverse matrices. 	Numbers & Operations Algebra	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 5.1
<ul style="list-style-type: none"> Use systems of linear equations to solve real-life problems. 	Numbers & Operations Algebra Measurement	Content 2.2a, 2.2b, 2.2c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
Quadratic Equations		
<ul style="list-style-type: none"> Graph quadratic functions. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1
<ul style="list-style-type: none"> Use quadratic functions to solve real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.3a, 2.3c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Factor quadratic expressions and solve quadratic equations by factoring. 	Numbers & Operations Algebra	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Find zeros of quadratic functions. 	Numbers & Operations Algebra	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Solve quadratic equations by finding square roots. 	Numbers & Operations Algebra	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1

<ul style="list-style-type: none"> Use quadratic equations to solve real-life problems. 	Numbers & Operations Algebra Measurement	Content 2.3a, 2.3b, 2.3c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Solve quadratic equations with complex solutions and perform operations with complex numbers. 	Numbers & Operations Algebra	Content 1.3a, 1.3b, 2.3a, 2.3b, 2.3c, 2.4 Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Apply complex numbers to fractal geometry. 	Numbers & Operations Algebra Measurement	Content 1.3a, 1.3b, 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1
<ul style="list-style-type: none"> Solve quadratic equations by completing the square. 	Numbers & Operations Algebra	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use completing the square to write quadratic functions in vertex form. 	Numbers & Operations Algebra	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1
<ul style="list-style-type: none"> Solve quadratic equations using the quadratic formula. 	Numbers & Operations Algebra	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use the quadratic formula in real-life situations. 	Numbers & Operations Algebra Measurement	Content 2.1b, 2.1c, 2.1d, 2.3a, 2.3b, 2.3c, 2.4 Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3

<ul style="list-style-type: none"> Graph quadratic inequalities in two variables. 	Numbers & Operations Algebra	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Solve quadratic inequalities in one variable. 	Numbers & Operations Algebra	Content 2.3a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
Polynomials and Polynomial Functions		
<ul style="list-style-type: none"> Use properties of exponents to evaluate and simplify expressions involving powers. 	Numbers & Operations Algebra Measurement	Content 1.1a, 1.1b, 2.6a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Evaluate a polynomial function. 	Numbers & Operations Algebra Measurement	Content 1.2a, 2.6a, 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Graph a polynomial function. 	Numbers & Operations Algebra	Content 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use polynomial operations in real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 1.2a, 2.6a, 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Factor polynomial expressions. 	Numbers & Operations Algebra	Content 2.6a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1

<ul style="list-style-type: none"> Use factoring to solve polynomial equations. 	Numbers & Operations Algebra Measurement	Content 2.6a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Divide polynomials and relate the result to the remainder theorem and the factor theorem. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 1.2a, 2.6a, 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use polynomial division in real life problems. 	Numbers & Operations Algebra Measurement	Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Find the rational zeros of a polynomial function. 	Numbers & Operations Algebra	Content 1.2a, 2.6a, 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2.2, 3.3, 3.4, 5.1
<ul style="list-style-type: none"> Use polynomial equations to solve real-life problems. 	Numbers & Operations Algebra Measurement	Content 1.2a, 2.6a, 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use the fundamental theorem of algebra to determine the number of zeros of a polynomial function. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.6a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use technology to approximate the real zeros of a polynomial function. 	Numbers & Operations Algebra	Content 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2, 5.3

<ul style="list-style-type: none"> Analyze the graph of a polynomial function. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2
<ul style="list-style-type: none"> Use the graph of a polynomial function to answer questions about real-life situations. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.6b, 2.6c, 2.6d Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
Powers, Roots, and Radicals		
<ul style="list-style-type: none"> Evaluate nth roots of real numbers using both radical notation and rational exponent notation. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 1.1a, 1.1b, 2.5 Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use nth roots to solve real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 1.1a, 1.1b, 2.5a, 2.5c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use properties of rational exponents to evaluate and simplify expressions. 	Numbers & Operations Algebra Measurement	Content 1.1a, 1.1b, 1.2b Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use properties of rational exponents to solve real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 1.1a, 1.1b, 2.5c, 2.7a, 2.7b, 2.7c, 2.7d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3

<ul style="list-style-type: none"> Perform operations with functions including power functions. 	<p>Numbers & Operations Algebra</p>	<p>Content 1.3a, 1.3b, 2.1b, 2.1c, 2.1d, 2.2a, 2.2b, 2.2c, 2.3a, 2.5c, 2.6b, 2.6c, 2.6d, 2.7a, 3.3</p> <p>Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1</p>
<ul style="list-style-type: none"> Use power functions and function operations to solve real-life problems. 	<p>Numbers & Operations Algebra Measurement Data Analysis & Probability</p>	<p>Content 1.3a, 1.3b, 2.1b, 2.1c, 2.1d, 2.2a, 2.2b, 2.2c, 2.3a, 2.5c, 2.6b, 2.6c, 2.6d, 2.7a, 3.3</p> <p>Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3</p>
<ul style="list-style-type: none"> Find inverses of linear functions. 	<p>Numbers & Operations Algebra</p>	<p>Content 2.1e, 2.2a, 2.2b, 2.2c</p> <p>Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1</p>
<ul style="list-style-type: none"> Find inverses of nonlinear functions. 	<p>Numbers & Operations Algebra</p>	<p>Content 1.2a, 2.1e, 2.5a, 2.6a</p> <p>Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1</p>
<ul style="list-style-type: none"> Solve equations that contain radicals or rational exponents. 	<p>Numbers & Operations Algebra</p>	<p>Content 1.1a, 1.1b, 1.2b, 2.7a</p> <p>Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2, 5.3</p>
<ul style="list-style-type: none"> Use radical equations to solve real-life problems. 	<p>Numbers & Operations Algebra Measurement</p>	<p>Content 1.1a, 1.1b, 1.2b, 2.7a</p> <p>Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1</p>

<ul style="list-style-type: none"> Use measures of central tendency and measures of dispersion to describe data sets. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 3.2a, 3.2b, 3.2c, 3.2d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2
Exponential and Logarithmic Functions		
<ul style="list-style-type: none"> Graph exponential growth functions. 	Numbers & Operations Algebra Measurement	Content 2.5a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use exponential growth functions. 	Numbers & Operations Algebra Measurement	Content 2.5c Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Graph exponential decay functions. 	Numbers & Operations Algebra Measurement	Content 2.5a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use exponential decay functions to model real-life situations. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.5c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use the number “e” as the base of exponential functions. 	Numbers & Operations Algebra Measurement	Content 2.5b Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use the natural base “e” in real-life situations. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.5c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3

<ul style="list-style-type: none"> Evaluate logarithmic functions. 	Numbers & Operations Algebra	Content 2.5a Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1
<ul style="list-style-type: none"> Use properties of logarithmic functions. 	Numbers & Operations Algebra	Content 2.5b Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use properties of logarithms to solve real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.5c Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Solve exponential equations. 	Numbers & Operations Algebra	Content 2.5a, 2.5b Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Model data with exponential functions. 	Numbers & Operations Algebra Measurement	Content 2.5a Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Model data with power functions. 	Numbers & Operations Algebra Measurement	Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
Rational Equations and Functions		
<ul style="list-style-type: none"> Write and use inverse variation models. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2

<ul style="list-style-type: none"> Write and use joint variation models. 	Numbers & Operations Algebra Measurement	Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2
<ul style="list-style-type: none"> Graph simple rational functions. 	Numbers & Operations Algebra	Content 2.7b, 2.7c, 2.7d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use the graph of a rational function to solve real-life problems. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Content 2.7a, 2.7b, 2.7c, 2.7d Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Graph general rational functions. 	Numbers & Operations Algebra	Content 2.7b, 2.7c, 2.7d Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Multiply and divide rational expressions. 	Numbers & Operations Algebra	Content 1.2b, 2.7a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Use rational expressions to model real-life quantities. 	Numbers & Operations Algebra Measurement	Content 1.2b, 2.7a Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Add and subtract rational expressions. 	Numbers & Operations Algebra	Content 1.2b, 2.7a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Simplify complex fractions. 	Numbers & Operations Algebra	Content 1.2b Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1, 5.2, 5.3

<ul style="list-style-type: none"> Solve rational equations. 	Numbers & Operations Algebra	Content 2.7a Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use rational equations to solve real-life problems. 	Numbers & Operations Algebra Measurement	Content 1.2b, 2.7a Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
Sequences and Series		
<ul style="list-style-type: none"> Use and write sequences. 	Numbers & Operations Algebra Measurement	Content 3.3 Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
<ul style="list-style-type: none"> Use summation notation to write series and find sums of series. 	Numbers & Operations Algebra Measurement	Content 3.3 Process 1.1, 1.2, 2.1, 2.2, 2.3, 5.1
Probability and Statistics		
<ul style="list-style-type: none"> Use the binomial theorem to expand a binomial that is raised to a power. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Process 1.1, 1.2, 2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3
<ul style="list-style-type: none"> Find the probabilities of unions and intersections of two events. 	Numbers & Operations Algebra Measurement Data Analysis & Probability	Process 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3

Resources

Standards

Principles and Standards for School Mathematics (4th ed.). (2005). National Council of Teachers of Mathematics, Reston, VA

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Bellman, Bragg; Charles; Hall; Handlin; Kennedy (2007) *Algebra 2*, Pearson Prentice Hall Publishing.

Burger, Edward; Chard, David J.; Hall, Earlene; Kennedy, Paul; Leinwand, Steve; Renfro, Freddie; Seymour, Dale; Waits, Bert K. (2007) *Algebra 2*, Holt, Rinehart, and Winston Publishing.

Holliday, Berchie; Cuevas, Gilbert J.; Luchin, Beatrice; Carter, John H.; Marks, Daniel; Day, Roger; Casey, Ruth M.; Hayek, Linda M. (2008) *Algebra 2*, McGraw-Hill Publishing.

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