Corresponding Section in Algebra 2 Book	Pace	Common Core Unit	Common Core Standard	ALGEBRA 2 MAP
1.1	1st Qtr	review	review	use a number line to graph and order real numbers, identify properties of and use operations with real numbers
1.2	1st Qtr	review	review	evaluate algebraic expressions, simplify algebraic expressions by combining like terms
1.3	1st Qtr	UNIT 3	A.CED.1	Create equations and inequalities in one variable and use them to solve problems. Including equations that arise from linear and quadratic functions, and simple rational and exponential functions.
1.4	1st Qtr	UNIT 3	A.CED.1	Create equations and inequalities in one variable and use them to solve problems. Including equations that arise from linear and quadratic functions, and simple rational and exponential functions.
1.4	1st Qtr	UNIT 3	A.CED.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's Law V = IR to highlight resistance R.
1.5	1st Qtr	review	review	use a general problem solving plan to solve real-life problems, use other problem solving strategies to solve real-life problems
1.6	1st Qtr	UNIT 3	A.CED.1	Create equations and inequalities in one variable and use them to solve problems. Including equations that arise from linear and quadratic functions, and simple rational and exponential functions.
1.7	1st Qtr	UNIT 3	A.CED.1	Create equations and inequalities in one variable and use them to solve problems. Including equations that arise from linear and quadratic functions, and simple rational and exponential functions.
2.1	1st Qtr	UNIT 2	F.IF.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
2.2	1st Qtr	review	review	find slopes olf lines and classify as parallel, perpendicular, neither and use to solve real-life problems.
2.3	1st Qtr	review	review	use slope-intercept form of a linear equation to graph linear equations. Use the standard form of a linear equation to graph linear equations
2.4	1st Qtr	UNIT 3	A.CED.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
2.5	1st Qtr	review	review	use scatter plots to identify correlation. Approximate best-fitting line for a set of data
2.6	1st Qtr	review	review	graph linear inequalities in two variables and use to solve real-life problems.
2.7	1st Qtr	UNIT 3	F.IF.7b	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
2.8	1st Qtr	UNIT 3	F.BF.3	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd function from their graphs and algebraic expressions.*

2.8	1st Qtr	UNIT 3	F.IF.7b	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
3.1	1st Qtr	UNIT 3	A.CED.3	Represent constraints by equations or inequalities, and by systems of equations and /or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
3.2	1st Qtr	UNIT 3	A.CED.3	Represent constraints by equations or inequalities, and by systems of equations and /or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
3.3	1st Qtr	UNIT 3	A.CED.3	Represent constraints by equations or inequalities, and by systems of equations and /or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
5.1	1st Qtr	UNIT 3	F.BF.3	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd function from their graphs and algebraic expressions.*
5.2	1st Qtr	review	review	factor quadratic expressions, find zeros of quadratic equations
5.3	1st Qtr	review	review	solve quadratic equations by finding square roots and use to solve real-life problems.
5.4	1st Qtr	UNIT 1	N.CN.1	Know there is a complex number i such that $i^2 = -1$, and every complex number has the form a + bi with a and b real.
5.4	1st Qtr	UNIT 1	N.CN.2	Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
5.4 - need more resource	1st Qtr	UNIT 1	A.APR.4	Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.
5.5	2nd Qtr	review	review	completing the square
5.6	2nd Qtr	review	review	use the quadratic formulat to solve quadratic equations
5.7	2nd Qtr	UNIT 1	N.CN.7	Solve quadratic equations with real coefficients that have complex solutions.
5.7	2nd Qtr	UNIT 3	A.CED.1	Create equations and inequalities in one variable and use them to solve problems. Including equations that arise from linear and quadratic functions, and simple rational and exponential functions.
5.8	2nd Qtr	UNIT 3	F.BF.1b	Write a function that describes a relationship between two quantities. Combine standard function types using arithmetic operations.

5.8	2nd Qtr	UNIT 3	F.IF.6	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. Using estimation (underlying theme).
5.1-5.8	2nd Qtr	UNIT 3	F.IF.4	For a function that models a relationship between two quantities, interpret key features of graphs, and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts, intervals where the function is increasing, decreasing, positive, or negative; relative max and mi; symmetries; end behavior; and periodicity.*
5.1-5.8	2nd Qtr	UNIT 3	F.IF.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
5 - need more resource	2nd Qtr	UNIT 1	A.REI.11	Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solution of the equation f(x) = g(x); find the solutions approximately, using technology, by making a table, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.
6.1	2nd Qtr	review	review	use properties of exponents to evaluate and simplify expressions involving powers, use scientific notations
6.2	2nd Qtr	UNIT 1	F.IF.7c	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.
6.3	2nd Qtr	UNIT 1	A.APR.1	Understand that polynomials form a system analogous to the integers, namely, they are closed under operations of addition, subtraction, and multiplication; add, subtract, multiply polynomials.
6.4	2nd Qtr	UNIT 1	A.SSE.2	Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$
6.5	2nd Qtr	UNIT 1	A.APR.2	Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x).
6.6	2nd Qtr	UNIT 1	A.APR.3	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.
6.7	2nd Qtr	UNIT 1	N.CN.9	(+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.
6.8	2nd Qtr	not required		analyze the graph of a polynomial function and use to solve real-life problems.
6.9	2nd Qtr	UNIT 3	F.IF.6	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. Using estimation (underlying theme).
7.1	2nd Qtr	UNIT 1	A.REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
7.2	2nd Qtr	UNIT 1	A.REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
7.3	2nd Qtr	UNIT 1	A.REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

7.4	3rd Qtr	UNIT 1	A.REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
7.4	3rd Qtr	UNIT 3	F.BF.4a	Find Inverse functions. Solve an equation of the form f(x) = c for a simple function that has an inverse and write an expression for the inverse.
7.5	3rd Qtr	UNIT 1	A.REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
7.6	3rd Qtr	UNIT 1	A.REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
7.7	3rd Qtr	UNIT 1	A.REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
7.7	3rd Qtr	UNIT 4	S.ID.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
8.1	3rd Qtr	UNIT 1	A.SSE.1 a	Interpret expressions that represent a quantity in terms of its context. Interpret parts of an expression, such as terms, factors, and coefficients.
8.1	3rd Qtr	UNIT 1	A.SSE.1 b	Interpret expressions that represent a quantity in terms of its context. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.
8.1	3rd Qtr	UNIT 3	F.BF.3	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd function from their graphs and algebraic expressions.*
8.1	3rd Qtr	UNIT 3	F.IF.7b	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
8.2	3rd Qtr	UNIT 3	F.BF.3	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd function from their graphs and algebraic expressions.*
8.2	3rd Qtr	UNIT 3	F.IF.7b	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
8.3	3rd Qtr	UNIT 3	F.IF.7b	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
8.4	3rd Qtr	UNIT 3	F.BF.4a	Find Inverse functions. Solve an equation of the form f(x) = c for a simple function that has an inverse and write an expression for the inverse.

8.4	3rd Qtr	UNIT 3	F.IF.7.e	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
8.5	3rd Qtr	not required		use properties of logarithms
8.6	3rd Qtr	not required		solve logarithmic equations
8.7	3rd Qtr	UNIT 3	F.BF.1b	Write a function that describes a relationship between two quantities. Combine standard function types using arithmetic operations.
8.8	3rd Qtr	not required		evaluate and graph logistic growth functions
8 - need more resource	3rd Qtr	UNIT 3	F.LE.4	For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.
8 - need more resource	3rd Qtr	UNIT 3	F.IF.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables or by verbal descriptions).
8 - need more resource	3rd Qtr	UNIT 1	A.REI.11	Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solution of the equation f(x) = g(x); find the solutions approximately, using technology, by making a table, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.
9.4	3rd Qtr	UNIT 1	A.APR.6	Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.
9.4	3rd Qtr	UNIT 1	A.APR.7	(+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
9.5	3rd Qtr	UNIT 1	A.APR.6	Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system.
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9.6	3rd Qtr	UNIT 1	A.APR.7	(+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
9.6	3rd Qtr	UNIT 1	A.REI.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
10.1	4th Qtr	UNIT 3	A.CED.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
13.1	4th Qtr	not required		use trig to evauate acute angles

13.2	4th Qtr	UNIT 2	F.TF.1	Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.
13.3	4th Qtr	UNIT 2	F.TF.2	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
13.4	4th Qtr	UNIT 3	F.BF.4a	Find Inverse functions. Solve an equation of the form f(x) = c for a simple function that has an inverse and write an expression for the inverse.
13.4	4th Qtr	UNIT 2	F.TF.2	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
14.1	4th Qtr	UNIT 3	F.IF.7e	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
14.1	4th Qtr	UNIT 2	F.TF.5	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.
14.2	4th Qtr	UNIT 2	F.TF.5	Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.
14.3	4th Qtr	UNIT 2	F.TF.8	Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.
11.1	4th Qtr	not required		use and write sequences
11.2	4th Qtr	not required		use summation notation
11.3	4th Qtr	UNIT 1	A.SSE.4	Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. For example, calculate mortgage payments.
12.1	4th Qtr	not required		fundamental counting principle and permutations
12.2	4th Qtr	UNIT 1	A.APR.5	(+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.
12.3	4th Qtr	UNIT 4	S.IC.2	Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?
12.3	4th Qtr	UNIT 4	S.MD.7	(+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).
12.3 - p723	4th Qtr	UNIT 4	S.MD.6	(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).
12.4	4th Qtr	not required		probabilities of unions and intersections, complements to find the probability of an event
12.5	4th Qtr	not required		probabilities of independent and dependent events

12.6	4th Qtr	UNIT 4	S.ID.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
12.7	4th Qtr	UNIT 4	S.ID.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.
need resource	4th Qtr	UNIT 4	S.IC.1	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.
need resource	4th Qtr	UNIT 4	S.IC.3	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.
need resource	4th Qtr	UNIT 4	S.IC.4	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
need resource	4th Qtr	UNIT 4	S.IC.5	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.
need resource	4th Qtr	UNIT 4	S.IC.6	Evaluate reports based on data.
Continuously	4th Qtr	UNIT 3	F.IF.8	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. Use the properties of exponents to interpret expressions for exponential functions.