Algebra II w/ Trig 4th Nine Weeks: Scope and Sequence

Content Standards	Dates Taught	% of Students scoring over 70%	Dates Re-taught (Optional)	Formative and Summative Assessments/ (Any Additional Comments Optional)
(12, 12a, 12 b) Interpret expressions that represent a quantity in terms of its context.* [A-SSE1] Interpret parts of an expression such as terms, factors, and coefficients. [A-SSE1a] Interpret complicated expressions by viewing one or more of their parts as a single entity. [A-SSE1b]	3/17-18	80%		Exit Slip
(17) 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. [A-APR3]				
(33) Write a function that describes a relationship between two quantities.* [F-BF1] a. Combine standard function types using arithmetic operations. [F-BF1b]				
(19) Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are 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. [A-APR6]				
(20) Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* [A-CED1]				
(27) Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.* [A-REI11]				
(14) 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.* [A-SSE4]				
(28, 28a) Create graphs of conic sections, including parabolas, hyperbolas, ellipses, circles, and degenerate conics, from second-degree equations. a. Formulate equations of conic sections from their determining characteristics.				
(38) 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. [F-TF2]				
(37) Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. [F-TF1]				

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(39) Define the six trigonometric functions using ratios of the sides of a right triangle, coordinates on the unit circle, and the reciprocal of other functions.				
(30c) Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. [F-IF7e]				
(40) Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.* [F-TF5]				
(43) Describe events as subsets of a sample space (the set of outcomes), using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not"). [S-CP1]				
(50) (+) Use permutations and combinations to compute probabilities of compound events and solve problems. [S-CP9]				
(46) Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. [S-CP5]				
(48) Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model. [S-CP7]				
(44) Understand the conditional probability of *A* given *B* as $P(A \text{ and } B)/P(B)$, and interpret independence of *A* and *B* as saying that the conditional probability of *A* given *B* is the same as the probability of *A*, and the conditional probability of *B* given *A* is the same as the probability of *B*. [S-CP3]				
(45) Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. [S-CP4]				
(46) Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. [S-CP5]				
(47) Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A*, and interpret the answer in terms of the model. [S-CP6]				
(49) (+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B\|A) = P(B)P(A\|B)$, and interpret the answer in terms of the model. [S-CP8]				
(41) (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). [S-MD6]				

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(42) (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). [S-MD7]				
(9) (+) Add, subtract, and multiply matrices of appropriate dimensions. [N-VM8]				
(11) (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse. [N-VM10]				
(7) (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network. (*Use technology to approximate roots.)* [N-VM6]				
(8) (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled. [N-VM7				
(10) (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties. [N-VM9]				
(26) (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3 × 3 or greater). [A-REI9]				