

Pre-AP Algebra II 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)
(13) Use the structure of an expression to identify ways to rewrite it. [A-SSE2]	3/17	80%		Exit Slip
(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]				
(22) 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. [A-CED3]				
(30) Graph functions expressed symbolically, and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* [F-IF7]				
(33) Write a function that describes a relationship between two quantities.* [F-BF1]				
(36) 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. [F-LE4]				
(35) Find inverse functions. [F-BF4]				
(36) 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. [F-LE4]				
(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]				
(34) Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, 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 functions from their graphs and algebraic expressions for them. [F-BF3]				
(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]				

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(12) Interpret expressions that represent a quantity in terms of its context.* [A-SSE1]				
(29) Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.* [F-IF5]				
(31) Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. [F-IF8]				
(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]				
(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. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i> [A-CED1]				
(21) Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2]				
(24) Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. [A-RE12]				
(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]				
(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]				
(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]				
(46) Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. [S-CP5]				

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(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]				
(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]				
(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]				
(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]				
(50) (+) Use permutations and combinations to compute probabilities of compound events and solve problems. [S-CP9]				
(37) Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. [F-TF1]				
(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.				
(40) Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.* [F-TF5]				