

Pre-AP Algebra I 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)
(10) Understand that polynomials form a system analogous to the integers; namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. [A-APR1]	3/17-20	85%		Pre-AP Quiz 9.2
(9, 9c) Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.* [A-SSE3] Determine a quadratic equation when given its graph or roots.				
(13) Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. [A-CED2]				
(28) 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. <i>Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i> * [F-IF4]				
(30) 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.* [F-IF6]				
(36) 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 functions from their graphs and algebraic expressions for them. [F-BF3]				
(31, 31a) 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] Graph linear and quadratic functions, and show intercepts, maxima, and minima. [F-IF7a]				
(7) Interpret expressions that represent a quantity in terms of its context.* [A-SSE1]				
(8) Use the structure of an expression to identify ways to rewrite it. [A-SSE2]				
(3) Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational. [N-RN3]				

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(9a) Factor a quadratic expression to reveal the zeros of the function it defines. [A-SSE3a]				
(18) Solve quadratic equations in one variable. [A-REI4]				
(9b) Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. [A-SSE3b]				
(18b) Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square and the quadratic formula, and factoring as appropriate to the initial form of the equation.[A-REI4b]				
(11) (+) 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. [A-APR7]				
(29) Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.* [F-IF5]				
(33) Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). [F-IF9]				
(45a) Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</i> [S-ID6a]				
(12) 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]				
(22) Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). [A-REI10]				
(31b) Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. [F-IF7b]				
(39) Observe, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. [F-LE3]				