









California Algebra 2









Concepts, Skills, and Problem Solving
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Correlation

California Algebra II Content Standards correlated to *California Algebra 2 Student Edition*

 denotes Key standards

Standard Number	Standard	Primary Citation(s)	Supporting Citation(s)
 1.0	Students solve equations and inequalities involving absolute value.	27-31, 41-48	40, 102-105
 2.0	Students solve systems of linear equations and inequalities (in two or three variables) by substitution, with graphs, or with matrices.	116-135, 145-152, 201-207, 216-222, 940-942	136, 162-167, 169-184, 194-200, 208-215, 223
 3.0	Students are adept at operations on polynomials, including long division.	320-330	312-318
 4.0	Students factor polynomials representing the difference of squares, perfect square trinomials, and the sum and difference of two cubes.	349-355, 879-880	356-361
 5.0	Students demonstrate knowledge of how real and complex numbers are related both arithmetically and graphically. In particular, they can plot complex numbers as points in the plane.	259-266	11-17, 58
 6.0	Students add, subtract, multiply, and divide complex numbers.	259-266	7, 11-17
 7.0	Students add, subtract, multiply, divide, reduce, and evaluate rational expressions with monomial and polynomial denominators and simplify complicated rational expressions, including those with negative exponents in the denominator.	6-10, 442-456	312-319, 325-330, 442-463, 479-486

Standard Number	Standard	Primary Citation(s)	Supporting Citation(s)
 8.0	Students solve and graph quadratic equations by factoring, completing the square, or using the quadratic formula. Students apply these techniques in solving word problems. They also solve quadratic equations in the complex number system.	246-251, 253-258, 268-283, 286-292	252, 259-266
 9.0	Students demonstrate and explain the effect that changing a coefficient has on the graph of quadratic functions; that is, students can determine how the graph of a parabola changes as a , b , and c vary in the equation $y = a(x-b)^2 + c$.	284-292	293
 10.0	Students graph quadratic functions and determine the maxima, minima, and zeros of the function.	236-244, 246-251	245
 11.0	Students prove simple laws of logarithms.	520-526	509-517, 528-533
 11.1	Students understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.	509-517	520-526, 528-533, 536-542, 544-550
 11.2	Students judge the validity of an argument according to whether the properties of real numbers, exponents, and logarithms have been applied correctly at each step.	509-517	18-26, 41-48, 253-258, 268-275, 286-292, 312-318, 450-456, 479-486, 520-526, 536-542
 12.0	Students know the laws of fractional exponents, understand exponential functions, and use these functions in problems involving exponential growth and decay.	415-421, 498-506, 518-519, 544-550	312-318, 507-508, 544-550
13.0	Students use the definition of logarithms to translate between logarithms in any base.	528-533	509-526
14.0	Students understand and use the properties of logarithms to simplify logarithmic numeric expressions and to identify their approximate values.	520-526	509-517, 528-533
 15.0	Students determine whether a specific algebraic statement involving rational expressions, radical expressions, or logarithmic or exponential functions is sometimes true, always true, or never true.	402-406, 408-414	397-401, 415-421, 442-449, 450-456, 498-506, 536-542
16.0	Students demonstrate and explain how the geometry of the graph of a conic section (e.g., asymptotes, foci, eccentricity) depends on the coefficients of the quadratic equation representing it.	567-579, 581-588, 590-597	580, 598-602

Standard Number	Standard	Primary Citation(s)	Supporting Citation(s)
17.0	Given a quadratic equation of the form $ax^2 + by^2 + cx + dy + e = 0$, students can use the method for completing the square to put the equation into standard form and can recognize whether the graph of the equation is a circle, ellipse, parabola, or hyperbola. Students can then graph the equation.	598-602	603-608
 18.0	Students use fundamental counting principles to compute combinations and permutations.	690-695	684-689, 696
 19.0	Students use combinations and permutations to compute probabilities.	697-702	710-715
 20.0	Students know the binomial theorem and use it to expand binomial expressions that are raised to positive integer powers.	664-669	729-733
21.0	Students apply the method of mathematical induction to prove general statements about the positive integers.	670-673	11-17
22.0	Students find the general term and the sums of arithmetic series and of both finite and infinite geometric series.	629-635, 643-655	622-628, 636-641
 23.0	Students derive the summation formulas for arithmetic series and for both finite and infinite geometric series.	629-635, 643-655	622-628, 636-642
24.0	Students solve problems involving functional concepts, such as composition, defining the inverse function and performing arithmetic operations on functions.	384-396	58-65
25.0	Students use properties from number systems to justify steps in combining and simplifying functions.	384-390	408-414