

California Algebra 1

Concepts, Skills, and Problem Solving

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Correlation




California Algebra I Content Standards correlated to *California Algebra 1* Student Edition

🔑 denotes Key standards

* denotes standards assessed on the California High School Exit Examination (CAHSEE)

Standard Number	Standard	Primary Citation(s)	Supporting Citation(s)
1.0	Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable.	21-31, 46-52, 536-540, 694-69703	33-37
1.1	Students use properties of numbers to demonstrate whether assertions are true or false.	21-25, 45, 314	420-424
🔑 2.0*	Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and raising to a fractional power. They understand and use the rules of exponents.	46-52, 358-364, 366-373, 528-540, 696-699	21-25, 541-546
3.0*	Students solve equations and inequalities involving absolute values.	322-327	716
🔑 4.0*	Students simplify expressions before solving linear equations and inequalities in one variable, such as $3(2x-5) + 4(x-2) = 12$.	92-103, 308-320	15-20, 26-37, 78-90, 122-128, 294-299, 301-307, 700-701
🔑 5.0*	Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.	92-103, 111-121, 294-299, 308-313, 315-320	77-91, 105-110, 122-128, 300-307

Standard Number	Standard	Primary Citation(s)	Supporting Citation(s)
 6.0*	Students graph a linear equation and compute the x - and y -intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).	155-163, 204-211, 334-340	253-258, 341-345
 7.0*	Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations by using the point-slope formula.	155-161, 219-225	226, 253-258
8.0*	Students understand the concepts of parallel lines and perpendicular lines and how those slopes are related. Students are able to find the equation of a line perpendicular to a given line that passes through a given point.	236-241	253-258
 9.0*	Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.	253-270, 272-278, 280-284, 334-339	252, 279
 10.0*	Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.	358-364, 366-373, 382-388, 390-409, 601-606	26-31, 33-37, 374, 375-381, 583-588, 590-600, 608-619
11.0	Students apply basic factoring techniques to second- and simple third-degree polynomials. These techniques include finding a common factor for all terms in a polynomial, recognizing the difference of two squares, and recognizing perfect squares of binomials.	425-439, 441-452, 454-460	420-424, 583-588, 590-599, 601-606, 608-619
 12.0	Students simplify fractions with polynomials in the numerator and denominator by factoring both and reducing them to the lowest terms.	583-589, 600, 620-625	626-632
 13.0	Students add, subtract, multiply, and divide rational expressions and functions. Students solve both computationally and conceptually challenging problems by using these techniques.	590-599, 608-632	576-582
 14.0	Students solve a quadratic equation by factoring or completing the square.	434-439, 441-452, 454-460, 486-491	426-431
 15.0*	Students apply algebraic techniques to solve rate problems, work problems, and percent mixture problems.	105-110, 122-129, 626-632	260-265, 272-278
16.0	Students understand the concepts of a relation and a function, determine whether a given relation defines a function, and give pertinent information about given relations and functions.	53-59, 143-154, 172-176	142, 155-161
17.0	Students determine the domain of independent variables and the range of dependent variables defined by a graph, a set of ordered pairs, or a symbolic expression.	53-58, 143-148, 328, 547	155-161, 471-477
18.0	Students determine whether a relation defined by a graph, a set of ordered pairs, or a symbolic expression is a function and justify the conclusion.	149-154, 176	471-479
 19.0	Students know the quadratic formula and are familiar with its proof by completing the square.	493-499, 528-534	486-491

Standard Number	Standard	Primary Citation(s)	Supporting Citation(s)
 20.0	Students use the quadratic formula to find the roots of a second-degree polynomial and to solve quadratic equations.	493-499	471-477, 480-491
 21.0	Students graph quadratic functions and know that their roots are the x-intercepts.	471-485	493-499
22.0	Students use the quadratic formula or factoring techniques or both to determine whether the graph of a quadratic function will intersect the x-axis in zero, one, or two points.	480-485, 493-499	471-479
 23.0	Students apply quadratic equations to physical problems, such as the motion of an object under the force of gravity.	500-501	426-431, 441-452, 454-460, 470-477, 480-491, 493-499
24.0	Students use and know simple aspects of a logical argument:	39-44	45
24.1	Students explain the difference between inductive and deductive reasoning and identify and provide examples of each.	171	39-44, 172-176
24.2	Students identify the hypothesis and conclusion in logical deduction.	39-44	
24.3	Students use counterexamples to show that an assertion is false and recognize that a single counterexample is sufficient to refute an assertion.	39-44	98-103, 111-115, 143-154, 301-307, 358-364, 376-381, 420-424, 480-485, 536-540, 614-619, 626-632, 663-670
25.0	Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements:	33-37	21-31, 39-44
25.1	Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.	21-31, 45	33-37, 39-44, 98-103, 111-115, 143-154, 301-307, 359-364, 366-373, 376-381, 420-424, 453, 441-446, 480-485, 528-534, 536-540, 614-619, 626-632, 663-670

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25.2	Students judge the validity of an argument according to whether the properties of the real number system and the order of operations have been applied correctly at each step.	38	10-20, 26-31, 85-90, 260-265, 272-278, 301-307, 358-364, 366-373, 384-388, 434-439, 441-452, 493-499, 541-546, 590-594, 608-613
25.3	Given a specific algebraic statement involving linear, quadratic, or absolute value expressions or equations or inequalities, students determine whether the statement is true sometimes, always, or never.	45	21-25, 78-84, 92-97, 111-115, 253-258, 294-299, 322-327, 398-403, 454-460