CALIFORNIA STANDARDS TEST
ALGEBRA I
(Blueprint adopted by the State Board of Education 10/02)

CALIFORNIA CONTENT STANDARDS: ALGEBRA I		# of Items	%
Symbolic reasoning and calculations with symbols are central in algebra. Through the study of algebra, a student develops an understanding of the symbolic language of mathematics and the sciences. In addition, algebraic skills and concepts are developed and used in a wide variety of problem-solving situations.			
Algebra I		**65**	**100%**
Standard Set 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:			
1.1	Students use properties of numbers to demonstrate whether assertions are true or false.	**1/2****	
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.	**4**	
3.0	Students solve equations and inequalities involving absolute values.	**1**	
4.0*	Students simplify expressions prior to solving linear equations and inequalities in one variable, such as $3(2x-5) + 4(x-2) = 12$.	**3**	
5.0*	Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.	**6**	
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 $2x + 6y < 4$).	**4**	
7.0*	Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations using the point-slope formula.	**4**	
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.	**1**	

* Key standards comprise a minimum of 70% of the test
** Fractional values indicate rotated standards (e.g., 1/2 = rotated every two years; 1/3 = rotated every three years)

CALIFORNIA STANDARDS TEST
ALGEBRA I
(Blueprint adopted by the State Board of Education 10/02)

CALIFORNIA CONTENT STANDARDS: ALGEBRA I		# of Items	%
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.	**5**	
10.0*	Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.	**4**	
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.	**2**	
12.0*	Students simplify fractions with polynomials in the numerator and denominator by factoring both and reducing them to the lowest terms.	**3**	
13.0*	Students add, subtract, multiply, and divide rational expressions and functions. Students solve both computationally and conceptually challenging problems by using these techniques.	**4**	
14.0*	Students solve a quadratic equation by factoring or completing the square.	**3**	
15.0*	Students apply algebraic techniques to solve rate problems, work problems, and percent mixture problems.	**4**	
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.	**1/2****	
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.	**1**	
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.	**1/2****	
19.0*	Students know the quadratic formula and are familiar with its proof by completing the square.	**2**	
20.0*	Students use the quadratic formula to find the roots of a second-degree polynomial and to solve quadratic equations.	**3**	

* Key standards comprise a minimum of 70% of the test
** Fractional values indicate rotated standards (e.g., 1/2 = rotated every two years; 1/3 = rotated every three years)

CALIFORNIA STANDARDS TEST
ALGEBRA I
(Blueprint adopted by the State Board of Education 10/02)

CALIFORNIA CONTENT STANDARDS: ALGEBRA I	# of Items	%
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.	**1**	
21.0* Students graph quadratic functions and know that their roots are the *x*-intercepts.	**3**	
23.0* Students apply quadratic equations to physical problems, such as the motion of an object under the force of gravity.	**3**	
Standard Set 24.0 Students use and know simple aspects of a logical argument:		
24.1 Students explain the difference between inductive and deductive reasoning and identify and provide examples of each.	**1/3****	
24.2 Students identify the hypothesis and conclusion in logical deduction.	**1/3****	
24.3 Students use counterexamples to show that an assertion is false and recognize that a single counterexample is sufficient to refute an assertion.	**1/3****	
Standard Set 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:		
25.1 Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.	**1/2****	
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.	**1/2****	
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.	**1/2****	
ALGEBRA I TOTAL	**65**	**100%**

* Key standards comprise a minimum of 70% of the test
** Fractional values indicate rotated standards (e.g., 1/2 = rotated every two years; 1/3 = rotated every three years)