

# Schoolwide Benchmark Assessment Plan

## Math Standards

Test 1 September  
Test 2 November

Test 3 January  
Test 4 March

Test	Standard	ALGEBRA II
		<b>Essential Math Standards</b>
1	1.0	Students solve equations and inequalities involving absolute value.
1	2.0	Students solve systems of linear equations and inequalities (in two or three variables) by substitution, with graphs, or with matrices.
1	3.0	Students are adept at operations on polynomials, including long division.
1	4.0	Students factor polynomials representing the difference of squares, perfect square trinomials, and the sum and difference of two cubes.
2	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.
2	6.0	Students add, subtract, multiply, and divide complex numbers.
2	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.
2	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.
3	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 $y = a(x-b)^2 + c$ .
3	10.0	Students graph quadratic functions and determine the maxima, minima, and zeros of the function.
3	11.1	Students understand inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.
3	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.
3	12.0	Students know the laws of fractional exponents, understand exponential functions, and use these functions in problems involving exponential growth and decay.
4	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.
4	18.0	Students use fundamental counting principles to compute combinations and permutations.
4	19.0	Students use combinations and permutations to compute probabilities.
4	20.0	Students know the binomial theorem and use it to expand binomial expressions that are raised to positive integer powers.
4	23.0	Students derive the summation formulas for arithmetic series and for both finite and infinite geometric series.

