

## Algebra II – Grades 9-12

### District 2853

Month	Content	Performance Standards Addressed Grades 9-11 Grades 11-12	Skills for Student Achievement	Assessment
September	Functions	Mathematical Reasoning - Benchmarks #1, #2, #3, Computation & Operation - Benchmarks #1, #5, #6 Patterns and Functions - Benchmarks #4, #5 Algebra - Benchmarks #1, #5, #7, #9, #10	Algebra - Benchmark #16	<ul style="list-style-type: none"> <li>· Evaluate expressions &amp; formulas</li> <li>· Use four operations to write expressions</li> <li>· Determine whether a relation is a function</li> <li>· Determine domain and range of a function</li> <li>· Use functions to solve real-world problems</li> <li>· Solve and check linear functions</li> <li>· Use linear functions to solve real-world problems</li> <li>· Rewrite formulas</li> <li>· Evaluate sequences</li> <li>· Write recursive and explicit formulas for sequences</li> </ul>
October	Variations and Graphs	Computation & Operation - Benchmark #6 Patterns and Functions - Benchmark #1, #3, #4, #5 Geometry - Benchmark #5	Algebra - Benchmark #11	<ul style="list-style-type: none"> <li>· Translate direct variation and inverse variation language into formulas</li> <li>· Solve direct and inverse variation problems</li> <li>· Use the fundamental theorem of variation</li> <li>· Find slope</li> <li>· Graph variation equations</li> <li>· Identify variation equations from graphs</li> <li>· Fit an appropriate model to data</li> </ul>
November to Mid-December	Linear Functions	Geometry - Benchmark #5 Computation & Operation - Benchmark #6 Patterns and Functions - Benchmarks #4, #5 Algebra - Benchmarks #3, #12		<ul style="list-style-type: none"> <li>· Determine the slope and y-intercept of a line</li> <li>· Determine the equation of a line</li> <li>· Graph and interpret graphs of linear functions</li> <li>· Recognize properties of linear functions</li> <li>· Evaluate and find recursive and explicit formulas for arithmetic sequences</li> </ul>
December	Matrix	Geometry - Benchmark #6		<ul style="list-style-type: none"> <li>· Use matrix to store data</li> <li>· Graph figures using matrix</li> <li>· Perform operations with matrix</li> <li>· Use matrix to achieve</li> </ul>

				<ul style="list-style-type: none"> <li>transformation of geometric figures</li> <li>Determine equations of lines perpendicular to given lines</li> </ul>	
January	Systems	Algebra - Benchmarks #7, #11	Algebra - Benchmark #1	<ul style="list-style-type: none"> <li>Solve and graph linear inequalities</li> <li>Solve systems of equations</li> <li>Find the determinant and the inverse of a square matrix</li> <li>Use matrix to solve systems of equations</li> <li>Graph linear inequalities</li> <li>Solve systems of inequalities</li> </ul>	
February	Quadratic Functions	Patterns and Functions - Benchmark #1 Algebra - Benchmarks #2, #8		<ul style="list-style-type: none"> <li>Solve quadratic equations by graphing, completing the square and using the quadratic formula</li> <li>Graph quadratic functions</li> <li>Use quadratic equations to solve problems</li> <li>Graph absolute value functions</li> <li>Graph and interpret parabolas</li> <li>Transform quadratic equations from vertex form to standard form</li> <li>Fit a quadratic model to data</li> <li>Perform operations with complex numbers</li> <li>Determine the nature of the solutions of an equation</li> <li>Determine the number of x-intercepts of a graph</li> </ul>	
March	Quadratic Functions and Powers	Patterns and Functions - Benchmarks #1, #3, #4 Algebra - Benchmarks #6, #8	Algebra - Benchmarks #5, #6, #7, #13	<ul style="list-style-type: none"> <li>Graph power functions</li> <li>Simplify expressions using properties of exponents</li> <li>Simplify expressions with negative exponents</li> <li>Solve real-world problems which can be modeled by expressions with nth powers</li> <li>Describe geometric sequences explicitly and recursively</li> <li>Solve equations with negative exponents</li> </ul>	

				<ul style="list-style-type: none"> <li>Solve equations with rational exponents</li> </ul>	
April	<ul style="list-style-type: none"> <li>Inverses and Radicals</li> </ul>	Computation & Operation - Benchmark #4	Algebra - Benchmarks #4, #9, #15	<ul style="list-style-type: none"> <li>Find values and rules for composites of functions</li> <li>Apply properties of inverse relations and functions</li> <li>Make and interpret graphs of inverses of relations</li> <li>Evaluate radicals</li> <li>Simplify expressions with radicals</li> <li>Solve equations with radicals</li> </ul>	
May	<ul style="list-style-type: none"> <li>Polynomials</li> </ul>	Algebra - Benchmark #1	Algebra - Benchmarks #3, #10	<ul style="list-style-type: none"> <li>Graph polynomial functions</li> <li>Multiply polynomials</li> <li>Factor polynomials</li> <li>Find factors and zeros of polynomials</li> </ul>	