

## Scope and Sequence

Subject/Title of Unit	Grade	6 Weeks	Estimated Time Frame (# of days)
Algebra 2 *Chapter 5 Polynomials and Polynomial Functions	10-12	3 <sup>rd</sup>	17 days
TEKS/Student Expectations		Examples/Specifications:	
<p><u>The student uses properties and attributes of functions and applies functions to problem situations. Following are performance descriptions.</u></p> <p>2A.1.A – For a variety of situations, the student identifies the mathematical domains and ranges and determines reasonable domain and range values for given situations.</p> <p>2A.1.B – In solving problems, the student collects data and records results, organizes the data, makes scatterplots, fits the curves to the appropriate parent function, interprets the results, and proceeds to model, predict, and make decisions and critical judgments.</p> <p><u>The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations. Following are performance descriptions.</u></p> <p>2A.2.A – The student uses tools including matrices, factoring, and properties of exponents to simplify expressions and transform and solve equations.</p> <p><u>The student formulates systems of equations and inequalities from problem situations, uses a variety of methods to solve them, and analyzes the solutions in terms of the situations. Following are performance descriptions.</u></p> <p>2A.3.B – The student uses algebraic methods, graphs, tables, or matrices, to solve systems of equations or inequalities.</p> <p><u>The student connects algebraic and geometric representations of functions. Following are performance descriptions.</u></p> <p>2A.4.A – The student identifies and sketches graphs of parent functions, including linear (<math>y = x</math>), quadratic (<math>y = x^2</math>), square root (<math>y = \sqrt{x}</math>), inverse (<math>y = 1/x</math>), exponential (<math>y = a^x</math>), and logarithmic (<math>y = \log_a x</math>) functions.</p> <p>2A.4.B – The student extends parent functions with parameters such as <math>m</math> in <math>y = mx</math> and describes parameter changes on the graph of parent functions.</p> <p><u>The student formulates equations and inequalities based on quadratic functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation. Following are performance descriptions.</u></p> <p>2A.8.B – The student analyzes and interprets the solutions of quadratic equations using discriminants and solves quadratic equations using the quadratic formula.</p> <p>P.1.D,E, P.3.A,B, G.5.A, G.8.A</p>		<ul style="list-style-type: none"> <li>✓ Student will be able to use properties of exponents</li> <li>✓ Student will be able to evaluate and graph polynomial functions</li> <li>✓ Student will be able to add, subtract, and multiply polynomials</li> <li>✓ Student will be able to factor and solve polynomial equations</li> <li>✓ Student will be able to apply the remainder and factor theorems</li> <li>✓ Student will be able to find rational zeros</li> <li>✓ Student will be able to apply the fundamental theorem of algebra</li> <li>✓ Student will be able to analyze graphs of polynomial functions</li> <li>✓ Student will be able to write polynomial functions and models</li> </ul>	

Process of Instruction/Products:	Instructional Resources/Textbook Correlations:																	
Lecture using transparencies and note taking on: <ol style="list-style-type: none"> <li>1. Use Properties of Exponents (5.1)</li> <li>2. Evaluate and Graph Polynomial Functions (5.2)</li> <li>3. Add, Subtract, and Multiply Polynomials (5.3)</li> <li>4. Factoring and Solve Polynomial Equations (5.4)</li> <li>5. Apply the Factors Remainder and Factor Theorems (5.5)</li> <li>6. Finding Rational Zeros (5.6)</li> <li>7. Apply the Fundamental Theorem of Algebra (5.7)</li> <li>8. Analyze Graphs of Polynomial Functions (5.8)</li> <li>9. Write Polynomial Functions and Models (5.9)</li> </ol> Math Jeopardy/white board activity and student directed assignment for test review of concepts	McDougal Littell/ Larson Algebra 2  CH 5 pages 328 - 411																	
Language of Instruction	Weblinks/Other Resources:																	
polynomial                      polynomial function                      end behavior Synthetic division              factored completely                      factor by grouping Quadratic form                      polynomial long division Synthetic substitution              repeated solution                      local maximum Local minimum                      finite differences	<a href="http://www.coolmath.com">www.coolmath.com</a>																	
Evaluation/External Assessment/Local Assessment:	Best Instruction Timeline:																	
Daily Homework In-class work End of Unit Test 2-5 Quizzes	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Day 1</td> <td style="width: 50%;">Day 8, 9</td> </tr> <tr> <td>Day 15</td> <td></td> </tr> <tr> <td>Day 2, 3</td> <td>Day 10, 11</td> </tr> <tr> <td>Day 16</td> <td></td> </tr> <tr> <td>Day 4</td> <td>Day 11</td> </tr> <tr> <td>Day 17</td> <td></td> </tr> <tr> <td>Day 5</td> <td>Day 12</td> </tr> <tr> <td>Day 6, 7</td> <td>Day 13, 14</td> </tr> </table>		Day 1	Day 8, 9	Day 15		Day 2, 3	Day 10, 11	Day 16		Day 4	Day 11	Day 17		Day 5	Day 12	Day 6, 7	Day 13, 14
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