



## Carroll ISD Algebra II 2021-2022 Year-At-A-Glance

	1 <sup>st</sup> Grading Period	2 <sup>nd</sup> Grading Period	3 <sup>rd</sup> Grading Period	4 <sup>th</sup> Grading Period
<b>Process Standards</b>	<b>A2.1 A, B, C, D, E, F, G</b> Math Process Standards, how students understand and learn mathematics, used throughout the course			
<b>TEKS</b>	<b>Unit 1: Linear Equations and Inequalities</b> 2A.2A, 2A.6C, D, E, F, 2A.7I  <b>Unit 2: Linear Functions</b> 2A.3A, B, E, F, G  <b>Unit 3: Systems of Equations and Inequalities</b> 2A.3C, D, 2A.4A, D, E, F, H, 2A.7I	<b>Unit 4: Factoring Polynomials</b> 2A.7B, C, D, E  <b>Unit 5: Conics</b> 2A.2A, 2A.6A, 2A.7A, B, C, D, I	<b>Unit 6: Polynomial Functions</b> 2A.4E, F, G, 2A.6B, 2A.7F, G, H  <b>Unit 7: Function Compositions and Inverses</b> 2A.A, B, C, D, 2A.4C, 2A.6A, A2.7I	<b>Unit 8: Exponential Functions</b> 2A.2A, B, C, 2A.5A, B, C, D, E, 2A.7I, 2A.8A, B, C  <b>Unit 9: Rational Equations and Functions</b> 2A.2A, 2A.6G, H, I, J, K, L, 2A.7I  <b>Unit 10: Transformations</b> 2A.2A, B, 2A.4C, 2A.5A, D, E, 2A.6A, B, C, D, E, F, G, H, I, J, K
<b>Topic Focus</b>	<b>Unit 1: Linear Equations and Inequalities</b> <ul style="list-style-type: none"> <li>● Evaluate and simplify algebraic expressions</li> <li>● Solve linear equations</li> <li>● Rewrite formulas and equations</li> <li>● Use problem solving strategies and models</li> <li>● Solve linear inequalities</li> <li>● Solve and Graph Absolute Value Equations and inequalities</li> </ul>	<b>Unit 4: Factoring Polynomials</b> <ul style="list-style-type: none"> <li>● Factoring perfect square trinomials</li> <li>● Factor trinomials with a leading coefficient of one.</li> <li>● Factor trinomials with a leading coefficient of something other than one.</li> <li>● Factor the difference of two squares.</li> <li>● Factor by grouping.</li> <li>● Factor out the GCF.</li> </ul>	<b>Unit 6: Polynomial Functions</b> <ul style="list-style-type: none"> <li>● Graph Polynomial Functions</li> <li>● Analyze Graphs of Polynomial Functions including End Behavior</li> <li>● Use Properties of Exponents</li> <li>● Evaluate Polynomial Functions</li> <li>● Add, Subtract, Multiply, and Divide Polynomials</li> </ul>	<b>Unit 8: Exponential Functions</b> <ul style="list-style-type: none"> <li>● Graph exponential growth functions and be able to describe transformations.</li> <li>● Graph exponential decay functions and be able to describe transformations.</li> <li>● Use functions involving e.</li> <li>● Find logarithms and graph logarithmic functions and their transformations.</li> <li>● Solve exponential and logarithmic equations.</li> </ul>



	<p><b>Unit 2: Linear Functions</b></p> <ul style="list-style-type: none"> <li>• Represent relations and functions</li> <li>• Find slope and rate of change</li> <li>• Graph and write equations of lines</li> <li>• Draw scatter plots and create best fitting lines</li> <li>• Absolute value Parent functions with and transformations and inequalities</li> <li>• Graph linear inequalities in two variables</li> </ul> <p><b>Unit 3: Systems of Equations and Inequalities</b></p> <ul style="list-style-type: none"> <li>• Solve linear systems by graphing</li> <li>• Solve linear systems algebraically.</li> <li>• Graph systems of linear inequalities</li> <li>• Solve systems of linear equalities in three variables.</li> <li>• Applications of Systems</li> </ul>	<ul style="list-style-type: none"> <li>• Be able to verbally, numerically, graphically, and algebraically explain why we factor.</li> <li>• Solve a quadratic in standard form by factoring.</li> <li>• Solve quadratic equations by finding square roots.</li> <li>• Perform operations with complex numbers</li> <li>• Use the quadratic formula to solve for x and determine the discriminant.</li> <li>• Understand what the roots, zeros, x intercepts and solutions to a problem are.</li> <li>• Graph and solve quadratic inequalities</li> <li>• Write quadratic functions and models.</li> </ul> <p><b>Unit 5: Conics</b></p> <ul style="list-style-type: none"> <li>• Write Equations of Parabolas</li> <li>• Be able to identify the foci, focal chord, directrix, vertex, axis of symmetry.</li> <li>• Be able to put each equation in vertex form by completing the square.</li> <li>• Complete the square.</li> <li>• Graph parabolas in vertex or intercept form (complete the square)</li> </ul>	<ul style="list-style-type: none"> <li>• Find Rational Zeros</li> <li>• Factor polynomials</li> <li>• Polynomial Applications</li> <li>• Factor the sum and difference of two cubes.</li> </ul> <p><b>Unit 7: Function Compositions and Inverses</b></p> <ul style="list-style-type: none"> <li>• Composition of functions including limitations on domain and range</li> <li>• Evaluate nth roots and use rational exponents.</li> <li>• Apply properties of rational exponents.</li> <li>• Use inverse functions.</li> <li>• Graph square root and cube root functions and be able to describe transformations.</li> <li>• Solve radical equations.</li> </ul>	<ul style="list-style-type: none"> <li>• Write and apply exponential and power functions.</li> <li>• Change of Base Formula</li> <li>• Inverse Logs</li> </ul> <p><b>Unit 9: Rational Equations and Functions</b></p> <ul style="list-style-type: none"> <li>• Multiply and divide rational expressions.</li> <li>• Add and subtract rational expressions.</li> <li>• Solve rational equations.</li> <li>• Graph simple rational functions. Be able to define intercepts and asymptotes.</li> <li>• Graph general rational functions, be able to define intercepts and asymptotes.</li> <li>• Model inverse variation</li> </ul> <p><b>Unit 10: Transformations</b></p> <ul style="list-style-type: none"> <li>• Summarize all Parent Functions and their Transformations</li> <li>• Work Algebra 2 Problems in preparation for Precalculus</li> </ul>
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<b>Additional Resources</b> <i>Texas 2016 Edition</i> <i>McGraw- Hill Algebra II</i>	Unit 1 - Ch. 1	Unit 4 - Ch. 4	Unit 6 - Ch. 5.1-5.5, 5.7	Unit 8 - Ch. 7
	Unit 2 - Ch. 2	Unit 5 - Ch. 4.5, 9.2	Unit 7 - Ch.6	Unit 9 - Ch. 8
	Unit 3 - Ch. 3			Unit 10 - Ch 2.7

**Power Standards: 2A.2A, 3A, 2A.3B, 2A.4C, 2A.4F, 2A.5A, 2A.6I, 2A.7E, 2A.7F**