

Algebra II A SLHS Updated 2014

Suggested timeline	CCSS	Learning Target	Resources
Week 1	<p><b>N.RN.B.3</b> Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational.</p> <p><b>A.SSE.A.1.a</b> Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p><b>A.SSE.A.2</b> Use the structure of an expression to identify ways to rewrite it.</p> <p><b>Common Core Mathematical Practice Standards: 1, 2, 4, 6, 7</b></p>	<p>Students write and evaluate algebraic expressions. They also simplify numerical and algebraic expressions containing exponents and develop an understanding of irrational numbers.</p>	1.1-1.3
Week 2	<p><b>A.CED.A.1</b> Create equations and inequalities in one variable and use them to solve problems. <b>A.CED.A.4</b> Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.</p> <p><b>A.SSE.A.1.b</b> Interpret complicated expressions by viewing one or more of their parts as a single entity.</p> <p><b>A.CED.A.1</b> Create equations and inequalities in one variable and use them to solve problems. <b>A.CED.A.4</b> Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.</p> <p><b>A.SSE.A.1.b</b> Interpret complicated expressions by viewing one or more of their parts as a single entity.</p> <p><b>Mathematical Practice Standards: 1, 2, 4, 7</b></p>	<p>Students need to be able to translate word problems into equations and inequalities and solve these for a specific variable. Students need to extend the concept of absolute value to equations.</p>	1.4-1.6

<p>Week 3&amp;4</p>	<p><b>F.BF.A.1</b> Write a function that describes a relationship between two quantities.</p> <p><b>F.IF.B.4</b> For a function that models a relationship between two quantities, interpret key features of graphs and tables .</p> <p><b>F.IF.C.9</b> Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> <p><b>A.CED.A.4</b> Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.</p> <p><b>Mathematical Practice Standards:</b> 1, 2, 4, 5, 7</p>	<p>Students need to be able to use information from a graph to find the equation of a line. Students need to be able to compare the slopes of equations written in different forms.</p>	<p>2.1-2.4</p>
<p>Week 4&amp;5</p>	<p><b>F.IF.B.6</b> Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.</p> <p><b>F.IF.C.7</b> Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <p><b>F.BF.A.1</b> Write a function that describes a relationship between two quantities.</p> <p><b>F.BF.B.3</b> Identify the effect on the graph of replacing <math>f(x)</math> by <math>f(x) + k</math>, <math>kf(x)</math>, <math>f(kx)</math>, and <math>f(x + k)</math> for specific values of <math>k</math> (both positive and negative)</p> <p><b>Mathematical Practice Standards:</b> 1, 2, 4, 5, 7</p>	<p>Students need to be able to interpret the graph of a linear inequality. They also need to understand how changes to a basic function can alter its graph by shifting and compressing.</p>	<p>2.4-2.8</p>
<p>Week 6</p>	<p><b>A.REI.C.6</b> Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.</p> <p><b>A.REI.D.11</b> . . . solutions of the equation <math>f(x) = g(x)</math>; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive</p>	<p>Students need to be able to solve a system of two equations involving fractions and decimals. Students need to be able to solve word problems that can be modeled by system of equations.</p>	<p>3.1-3.2</p>

	<p>approximations. Include cases where <math>f(x)</math> and/or <math>g(x)</math> are linear. . . .</p> <p><b>Mathematical Practice Standards:</b> 1, 2, 4, 5, 6, 7, 8</p>		
Week 7	<p><b>A.CED.A.3</b> Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.</p> <p><b>A.REI.D.12</b> Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p> <p><b>Mathematical Practice Standards:</b> 1, 2, 3, 4, 6, 7</p>	Students graph systems of inequalities and determine the region of overlap that satisfies the two inequalities. Students write inequalities for a real- world situation and solve those systems of inequalities.	3.3-3.4
Week 8&9	<p><b>A.APR.B.3</b> Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.</p> <p><b>A.SSE.A.2</b> Use the structure of an expression to identify ways to rewrite it. <b>Mathematical Practice Standards:</b> 1, 2, 4, 5, 7</p>	Students need to recognize patterns and use factoring techniques to factor completely. Students need to be able to solve and graph a quadratic equation.	4.1-4.5
Week 10	<p><b>N.CN.A.1</b> Know that there is an imaginary number <math>i</math>, and know that every complex number comes in the form <math>a + bi</math>, and that <math>a</math>, and <math>b</math> are real.</p> <p><b>N.CN.A.2</b> Use the idea that <math>i^2 = -1</math>, and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.</p> <p><b>N.CN.C.7</b> Solve quadratic equations with real coefficients that have complex solutions.</p>	Students need to understand operations with complex numbers. Students need to solve quadratic equations having complex solutions and solve linear-quadratic systems.	4.8-4.9

	<p><b>A.REI.C.7</b> Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. .</p> <p><b>N.CN.C.7</b> Solve quadratic equations with real coefficients that have complex solutions.</p> <p><b>A.REI.C.7</b> Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.</p> <p><b>Mathematical Practice Standards:</b> 1, 2, 4, 5, 6, 7, 8</p>		
<p>Week 11</p>	<p><b>F.IF.B.4</b> For a function that models a relationship between two quantities, interpret key features of graphs and tables.</p> <p><b>F.IF.C.7</b> Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <p><b>F.BF.A.1</b> Write a function that describes a relationship between two quantities.</p> <p><b>A.APR.B.3</b> Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.</p> <p><b>A.SSE.A.2</b> Use the structure of an expression to identify ways to rewrite it.</p> <p><b>A.REI.D.11</b> Explain why the <math>x</math>-coordinates of the points where the graphs of the equations <math>y = f(x)</math> and <math>y = g(x)</math> intersect are the solutions of the equation <math>f(x) = g(x)</math></p> <p><b>Mathematical Practice Standards:</b> 1, 2, 4, 5, 6, 7, 8</p>	<p>Students need to understand the behaviors of polynomial functions and graphs. Students need to write a polynomial function to model a given situation.</p>	<p>5.1-5.3</p>