Algebra 1B Scope and Sequence

Suggested timeline	CCSS	Learning Target	Resources
Week 13-14	A.REI.C.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A.REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. A.REI.D.11 Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.	Students solve systems of equations using graphing, substitution, and eliminations methods	6.1-6.4
Week 15	A.CED.A.3 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. A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. A.REI.C.6 Solve systems of linear equations exactly and approximately. . . . A.REI.D.12 Graph the solutions to a linear inequality in two variables as a half-plane, and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes	Students determine if ordered pairs are solutions of two-variable inequalities and graph two-variable inequalities. Students solve systems of equations algebraically or by graphing.	6.4-6.5

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Week 15	A.CED.A.3 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. A.REI.D.12 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.	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.	6.6
Week 16	N.RN.A.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. N.RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Students use the properties of exponents to simplify expressions containing rational exponents.	7.1-7.4
Week 17-18	N.RN.A.2 Rewrite expressions involving radicals . . . using the properties of exponents. A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F.IF.B.5 Relate the domain of a function . . . to the quantitative relationship it describes. F.LE.A.2 Construct . . . exponential functions, . . . given a graph, [or] a description of a relationship. . . . F.LE.B.5 Interpret the parameters in a linear or exponential function in terms of a context.	Students simplify radical expressions by first rewriting the expressions using rational exponents. Students graph exponential functions by making tables for the function rules and graphing points.	7.5-7.7
Week 18	A.SSE.A.1.a Interpret parts of an expression, such as terms, factors, and coefficients. F.IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. F.BF.A.1.a Determine an explicit expression, a recursive process. . . . F.LE.A.1.c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval	Students use exponential functions to describe growth and decay. Students use recursive and explicit functions for geometric sequences.	7.7-7.8

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continued	relative to another. F.LE.A.2 Construct linear and exponential functions, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	Continued	continued
Week 19	A.APR.A.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	Students name polynomials by degree and number of terms. They add, subtract, and multiply binomials, including the special cases squaring a binomial and finding the product of a sum or difference.	8.1-8.4
Week 20-21	A.SSE.A.1.a Interpret parts of an expression, such as terms, factors, and coefficients. A.SSE.A.1.b Interpret complicated expressions by viewing one or more of their parts as a single entity. A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it.	Students factor trinomials of the form ax^2+bx+c with values of a=1 and values of a not equal to 1. Students factor special cases: perfect square trinomials and the difference of two squares. Students factor polynomials with 4 terms using grouping techniques.	8.5-8.8
Week 21	F.IF.B.4 For a function . . . interpret key features of graphs and tables. . . , and sketch graphs showing key features given a verbal description of the relationship. F.IF.B.5 Relate the domain of a function to its graph. . . F.IF.C.7.a Graph . . . quadratic functions and show intercepts, maxima, and minima. F.IF.C.8.a Use the process of factoring . . . in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	Students find the axis of symmetry of a parabola and graph quadratic functions. Students solve quadratic equations. Students use quadratic functions to model real-world situations.	9.1-9.4
Week 22	A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it. A.SSE.B.3.a Factor a quadratic expression to reveal the zeros of the function it defines. A.APR.B.3 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. A.REI.A.2 Solve simple rational and radical equations in one variable. . . . A.REI.B.4 Solve quadratic equations in one variable. A.REI.B.4.a Use the method of completing the square to transform any quadratic equation in x into an equation of the form (x -p)^2=q that has the same solutions. . . .	Students solve equations by graphing, factoring, and completing the square.	9.4-9.5

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Week 22-23	A.CED.A.1 Create equations . . . in one variable and use them to solve problems. A.REI.B.4.b Solve quadratic equations by . . . the quadratic formula and factoring, ... F.IF.C.8.a Use the process of factoring and completing the square in a quadratic function to show zeros. . . . A.REI.7 Solve a simple system consisting of a linear equation and a quadratic equation algebraically and graphically… FLE.1.a Prove that linear functions grow by equal differences… and that exponential functions grow by equal factors over equal intervals	Students use completing the square and the quadratic formula to solve equations. Students choose linear, quadratic, or exponential models from data. Students solve systems of linear and quadratic equations.	9.5-9.8
Week 23-24	S.ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation). . . . S.ID.A.3 Interpret differences in shape, center, and spread in the context of the data. . . . S.ID.B.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data. . . .	Students use histograms to show the frequencies of related data. Students find the measures of central tendency and use the best measure to describe the set of data. Students make and interpret box-and-whisker plots.	12.2-12.4