WEST BOLIVAR
CONSOLIDATED SCHOOL DISTRICT

# Mathematics Pacing Guide

## ALGEBRA 1

Term 1

# WEST BOLIVAR CONSOLIDATED SCHOOL DISTRICT

Mathematics Pacing Guide
2021 – 2022

# Algebra 1

## FIRST NINE WEEKS

| Unit 1: Expressions and Problem Solving | *Suggested* Number of Days for Unit: 7 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| N-RN.3<br>Explain why:<br>• the sum or product of two rational numbers is rational;<br>• the sum of a rational number and an irrational number is irrational; and<br>• the product of a nonzero rational number and an irrational number is irrational. | 1 Day |
| MODULE 1: SIMPLE EXPRESSIONS<br>A-SSE.1a<br>Interpret expressions that represent a quantity in terms of its context.<br>a. Interpret parts of an expression, such as terms, factors, and coefficients.<br>A.APR.1<br>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. | 3 Days |
| MODULE 2: PROBLEM SOLVING WITH UNITS<br>N-Q.2<br>Define appropriate quantities for the purpose of descriptive modeling.<br>N-Q.3<br>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. | 1 Day |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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Algebra 1

| Unit 2: Equations | *Suggested* Number of Days for Unit: 10 days |
|---|---|
| **Standards** | ***Suggested* Number of Instructional Days** |
| MODULE 1: EQUATIONS IN ONE VARIABLE<br>A-REI.3<br>Solve linear equations ~~and inequalities~~ in one variable, including equations with coefficients represented by letters.<br>A-REI.1<br>Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method. | 1 Day |
| A-REI.3<br>Solve linear equations ~~and inequalities~~ in one variable, including equations with coefficients represented by letters.<br>A-REI.1<br>Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.<br>A-CED.3<br>Represent constraints by equations or ~~inequalities~~, ~~and by systems of equations and/or inequalities,~~ and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*<br>A-CED.1<br>Create equations ~~and inequalities~~ in one variable and use them to solve problems. *Include equations arising from linear ~~and quadratic functions, and simple rational and exponential~~ functions.* | 4 Days |

| Unit 2: Equations | *Suggested* Number of Days for Unit: 10 days |
|---|---|
| **Standards** | ***Suggested* Number of Instructional Days** |
| MODULE 2: FORMULAS & LITERAL EQUATIONS<br>A-CED.4<br>Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*<br>N-Q.1<br>Use units as a way to understand problems and to guide the solutions to multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and origin in graphs and data displays. | 5 Days |

| Unit 3: Inequalities in One Variable | *Suggested* Number of Days for Unit: 5 days |
|---|---|
| **Standards** | ***Suggested* Number of Instructional Days** |
| A-REI.3<br>Solve linear ~~equations and~~ inequalities in one variable, including equations with coefficients represented by letters.<br>A-CED.3<br>Represent constraints by ~~equations or~~ inequalities, ~~and by systems of equations and/or inequalities,~~ and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*<br>A-CED.1<br>Create ~~equations and~~ inequalities in one variable and use them to solve problems. *Include equations arising from linear ~~and quadratic functions, and simple rational and exponential~~ functions.* | 3 Days |
| Units Review (Units 2 & 3) | 1 Day |
| Units Assessment (Units 2 & 3) | 1 Day |

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Algebra 1

| Unit 4: Functions | *Suggested* Number of Days for Unit: 17 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 1: ARITHMETIC SEQUENCES<br>F-IF.3<br>Recognize that sequences are functions whose domain is a subset of the integers.<br>F-LE.2<br>Construct ~~linear and exponential functions, including~~ arithmetic ~~and geometric~~ sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).<br>F-BF.1a<br>Write a function that describes a relationship between two quantities.<br>a. Determine an explicit expression or steps for calculation from a context. | 2 Days |
| MODULE 2: INTRODUCTION TO FUNCTIONS<br>F-IF.1<br>Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$. The graph of $f$ is the graph of the equation $y = f(x)$.<br>F-IF.2<br>Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. | 4 Days |
| MODULE 3: LINEAR FUNCTIONS<br>F-LE.2<br>Construct linear ~~and exponential functions, including arithmetic and geometric sequences,~~ given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).<br>A-REI.10<br>Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). | 2 Days |

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Algebra 1

| Unit 4: Functions | *Suggested* Number of Days for Unit: 17 days |
|---|---|
| Standards | *Suggested* Number of Instructional Days |
| F-IF.5<br>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*<br>F-IF.7a<br>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.<br>a. Graph functions (linear and ~~quadratic~~) and show intercepts, ~~maxima~~, and ~~minima~~.<br>F-LE.5<br>Interpret the parameters in a linear ~~or exponential function~~ in terms of a context.<br>N-Q.1<br>Use units as a way to understand problems and to guide the solutions to multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and origin in graphs and data displays. | 2 Days |
| A-CED.2<br>Create equations in two variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. | 2 Days |
| F-LE.1a & F-LE.1b<br>Distinguish between situations that can be modeled with linear functions ~~and with exponential functions.~~<br>a. Prove that linear functions grow by equal differences over equal intervals ~~and that exponential functions grow by equal factors over equal intervals~~.<br>b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.<br>F-IF.6<br>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. | 3 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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## ALGEBRA 1

Term 2

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## Algebra 1

### SECOND NINE WEEKS

| Unit 5: Inequalities in Two Variable | *Suggested* Number of Days for Unit: 5 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| A-CED.3<br>Represent constraints by equations or inequalities, ~~and by systems of equations~~ and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* * | 1 Day |
| A-REI.12<br>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.~~ | 2 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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# Algebra 1

## SECOND NINE WEEKS

| Unit 6: Systems | *Suggested* Number of Days for Unit: 15 days |
|---|---|

| Standards | *Suggested* Number of Instructional Days |
|---|---|
| MODULE 1: Systems of Equations<br>A-CED.2<br>Create equations in two variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.* [Note this standard appears in future courses with a slight variation in the standard language.]<br>A-CED.3<br>Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.**<br>A-REI.11<br>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, quadratic, absolute value, and exponential functions.**<br>A-REI.5<br>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, quadratic, absolute value, and exponential functions.** | 7 Days |

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## Algebra 1

### SECOND NINE WEEKS

| Unit 6: Systems | *Suggested* Number of Days for Unit: 15 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 1: Systems of Equations (cont'd)<br>A-REI.6<br>Solve systems of linear equations algebraically, exactly, and graphically while focusing on pairs of linear equations in two variables. | 7 Days |
| MODULE 2: Systems of Inequalities<br>A-CED.3<br>Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*<br>A-REI.12<br>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. | 6 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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## SECOND NINE WEEKS

**Unit 7: Sequences & Exponential Functions** | ***Suggested*** **Number of Days for Unit: 15 days**

| Standards | *Suggested* Number of Instructional Days |
|---|---|
| MODULE 1: Sequences<br>F-IF.3<br>Recognize that sequences are functions whose domain is a subset of the integers.<br>F-LE.2<br>Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).*<br>F-BF.1a<br>Write a function that describes a relationship between two quantities.*<br>a. Determine an explicit expression or steps for calculation from a context. | 7 Days |
| MODULE 2: Exponential Functions<br>F-IF.4<br>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*<br>F-IF.5<br>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person- hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*<br>F-IF.6<br>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.* | 6 Days |

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## SECOND NINE WEEKS

**Unit 7: Sequences & Exponential Functions** | ***Suggested*** **Number of Days for Unit: 15 days**

| Standards | *Suggested* Number of Instructional Days |
|---|---|
| MODULE 2: Exponential Functions (cont'd)<br>A-CED.1<br>Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear ~~and quadratic functions, and simple rational~~ and exponential functions.* *<br>A-CED.2<br>Create equations in two variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.* [Note this standard appears in future courses with a slight variation in the standard language.]<br>A-SSE.3c<br>Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*<br>c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression 1.15t can be rewritten as [1.151/12]12t ≈1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*<br>F-LE.1a<br>Distinguish between situations that can be modeled with linear functions and with exponential functions.* a. Prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals. | 6 Days |

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## Algebra 1

### SECOND NINE WEEKS

| Unit 7: Sequences & Exponential Functions | *Suggested* Number of Days for Unit: 15 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 2: Exponential Functions (cont'd)<br>F-LE.1c<br>Distinguish between situations that can be modeled with linear functions and with exponential functions.* c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.<br>F-LE.2<br>Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).* | 6 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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## SECOND NINE WEEKS

| Unit 8: Comparing Linear and Exponential Functions | *Suggested* Number of Days for Unit: 5 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| F-IF.9<br>Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.<br>F-LE.1a<br>Distinguish between situations that can be modeled with linear functions and with exponential functions.*<br>a. Prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals.<br>F-LE.1b<br>Distinguish between situations that can be modeled with linear functions and with exponential functions.* b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.<br>F-LE.5<br>Interpret the parameters in a linear or exponential function in terms of a context.*<br>F-LE.2<br>Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).* | 3 Days |

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## Algebra 1

### SECOND NINE WEEKS

**Unit 8: Comparing Linear and Exponential Functions** | ***Suggested*** **Number of Days for Unit: 5 days**

| Standards | *Suggested* Number of Instructional Days |
|---|---|
| (cont'd)<br>F-BF.3<br>Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*<br>A-REI.11<br>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, quadratic, absolute value, and exponential functions.* * | 3 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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Term 3

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# Algebra 1

## THIRD NINE WEEKS

| Unit 9: Polynomial and Quadratic Expressions | *Suggested* Number of Days for Unit: 15 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 1: Operations with Polynomials<br>A-SSE.1a<br>Interpret expressions that represent a quantity in terms of its context.*<br>a. Interpret parts of an expression, such as terms, factors, and coefficients.<br>A-SSE.1b<br>Interpret expressions that represent a quantity in terms of its context.* b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret P(1+r)n as the product of P and a factor not depending on P.*<br>A-APR.1<br>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.<br>N-RN.3<br>Explain why:<br>• the sum or product of two rational numbers is rational;<br>• the sum of a rational number and an irrational number is irrational; and<br>• the product of a nonzero rational number and an irrational number is irrational. | 6 Days |

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## Algebra 1

### THIRD NINE WEEKS

**Unit 9: Polynomial and Quadratic Expressions** | ***Suggested*** **Number of Days for Unit: 15 days**

| Standards | *Suggested* Number of Instructional Days |
|---|---|
| MODULE 2: Factoring<br>A-SSE.2<br>Use the structure of an expression to identify ways to rewrite it. *For example, see x4 – y4 as (x2)2 – (y2)2 thus recognizing it as a difference of squares that can be factored as (x2 – y2)(x2 + y2).*<br>A-SSE.3a<br>Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*<br>a. Factor a quadratic expression to reveal the zeros of the function it defines. | 7 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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# Algebra 1

## THIRD NINE WEEKS

| Unit 10: Quadratics | *Suggested* Number of Days for Unit: 20 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 1: Quadratic Equations<br>A-REI.4<br>Solve quadratic equations in one variable.<br>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. Derive the quadratic formula from this form.<br>b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions.<br>A-CED.1<br>Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* * | 8 Days |
| MODULE 2: Quadratic Functions<br>A-SSE.3a<br>Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*<br>a. Factor a quadratic expression to reveal the zeros of the function it defines.<br>A-SSE.3b<br>Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*<br>b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. | 10 Days |

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## THIRD NINE WEEKS

| Unit 10: Quadratics | *Suggested* Number of Days for Unit: 20 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 2: Quadratic Functions (cont'd)<br>A-APR.3<br>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 (limit to 1st- and 2nd degree polynomials).<br>A-IF.4<br>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*<br>A-CED.2<br>Create equations in two variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.* [Note this standard appears in future courses with a slight variation in the standard language.]<br>F-IF.5<br>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person- hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.* | 10 Days |

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## THIRD NINE WEEKS

| Unit 10: Quadratics | *Suggested* Number of Days for Unit: 20 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 2: Quadratic Functions (cont'd)<br>F-IF.6<br>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.*<br>F-IF.7a<br>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*<br>a. Graph functions (linear and quadratic) and show intercepts, maxima, and minima.<br>F-IF.8a<br>Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.<br>a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.<br>F-IF.9<br>Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum. | 10 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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ALGEBRA 1

Term 4

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# Algebra 1

## FOURTH NINE WEEKS

| Unit 11: Other Functions | *Suggested* Number of Days for Unit: 10 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 1: Modeling with Other Functions<br>A-CED.1<br>Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* *<br>F-IF.4<br>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*<br>F-IF.5<br>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person- hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.*<br>F-IF.6<br>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.* | 4 Days |

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## FOURTH NINE WEEKS

**Unit 11: Other Functions** | ***Suggested*** **Number of Days for Unit: 10 days**

| Standards | *Suggested* Number of Instructional Days |
|---|---|
| MODULE 1: Modeling with Other Functions (cont'd)<br>F-IF.9<br>Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*<br>F-APR.3<br>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 (limit to 1st- and 2nd degree polynomials).<br>F-BF.3<br>Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*<br>F-REI.11<br>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, quadratic, absolute value, and exponential functions.* | 4 Days |

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# Algebra 1

## FOURTH NINE WEEKS

| Unit 11: Other Functions | *Suggested* Number of Days for Unit: 10 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 1: Modeling with Other Functions (cont'd)<br>F-IF.7b<br>Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*<br>b. Graph square root and piecewise-defined functions, including absolute value functions. | 4 Days |
| MODULE 2: Even/Odd Functions<br>F-BF.3<br>Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.* | 4 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |

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## FOURTH NINE WEEKS

| Unit 12: Descriptive Statistics | *Suggested* Number of Days for Unit: 10 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 1: Data Representation<br>S-ID.1<br>Represent and analyze data with plots on the real number line (dot plots, histograms, and box plots).*<br>S-ID.2<br>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.*<br>S-ID.3<br>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).*<br>S-ID.5<br>Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.* | 4 Days |
| MODULE 2: Modeling Data<br>S-ID.6a<br>Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.*<br>a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. | 4 Days |

# WEST BOLIVAR CONSOLIDATED SCHOOL DISTRICT

Mathematics Pacing Guide
2021 – 2022

## Algebra 1

### FOURTH NINE WEEKS

| Unit 12: Descriptive Statistics | *Suggested* Number of Days for Unit: 10 days |
|---|---|
| **Standards** | ***Suggested*** **Number of Instructional Days** |
| MODULE 2: Modeling Data (cont'd)<br>S-ID.6b<br>Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.* b. Informally assess the fit of a function by plotting and analyzing residuals.<br>S-ID.6c<br>Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.* Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.*<br>S-ID.7<br>Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.*<br>S-ID.8<br>Compute (using technology) and interpret the correlation coefficient of a linear fit.*<br>S-ID.9<br>Distinguish between correlation and causation.* | 4 Days |
| Unit Review | 1 Day |
| Unit Assessment | 1 Day |