COMMON CORE ALGEBRA I

VERSION 1.0

ANNOTATED WITH PARCC EOY COMMON CORE STANDARDS

UNIT #1 – THE BUILDING BLOCKS OF ALGEBRA – 11 LESSONS

- Lesson #1 – Rates, Patterns and Problem Solving

  N-Q.1, A-CED.2

- Lesson #2 – Variables and Expressions

  None directly sited in the PARCC Algebra I Standards.

- Lesson #3 – The Commutative and Associative Properties

  Preparation for A-REI.1

- Lesson #4 – The Distributive Property

  Preparation for A-REI.1

- Lesson #5 – Equivalent Expressions

  Preparation for A-REI.1

- Lesson #6 – Seeing Structure in Expressions

  A-SSE.1(b), A-SSE.2

- Lesson #7 – Exponents as Repeated Multiplication

  A-SSE.3(c)

- Lesson #8 – More Complex Equivalency

  None directly cited in the PARCC Algebra I Standards.

- Lesson #9 – More Structure Work

  A-SSE.1(b), A-SSE.2

UNIT #1 – THE BUILDING BLOCKS OF ALGEBRA – 11 LESSONS

- Lesson #10 – Translating English to Algebra

  Preparation for A-CED.1

- Lesson #11 – Algebraic Puzzles

  A-SSE.1(b)

UNIT #2 – LINEAR EXPRESSIONS, EQUATIONS, AND INEQUALITIES – 13 LESSONS

- Lesson #1 – Equations and Their Solutions

  A-REI.3

- Lesson #2 – Seeing Structure to Solve Equations

  A-SSE.1(b), A-REI.3

- Lesson #3 – A Linear Equation Solving Review

  A-CED.3, A-REI.3

- Lesson #4 – Justifying Steps in Solving an Equation

  A-REI.1, A-REI.3

- Lesson #5 – Linear Word Problems

  A-CED.1, A-REI.3

- Lesson #6 – More Linear Equations and Consecutive Integer Games

  A-CED.1, A-REI.3

- Lesson #7 – Solving Linear Equations with Unspecified Constants

  A-CED.4, A-REI.3

- Lesson #8 – Inequalities

  In preparation for A-CED.1, A-CED.3, and A-REI.3

UNIT #2 – LINEAR EXPRESSIONS, EQUATIONS, AND INEQUALITIES – 13 LESSONS

- Lesson #9 – Solving Linear Inequalities

  A-REI.3

- Lesson #10 – Compound Inequalities

  A-REI.3

- Lesson #11 – More Work with Compound Inequalities

  A-REI.3

- Lesson #12 – Interval Notation

  A-REI.3

- Lesson #13 – Modeling with Inequalities

  A-CED.1, A-REI.3

UNIT #3 – FUNCTIONS – 7 LESSONS

- Lesson #1 – Introduction to Functions

  F-IF.1

- Lesson #2 – Function Notation

  F-IF.1, F-IF.2

- Lesson #3 – Graphs of Functions

  F-IF.1, F-IF.2, F-IF.7(a)

- Lesson #4 – Graphical Features

  F-IF.1, F-IF.2, F-IF.4, F-IF.7(b)

- Lesson #5 – Exploring Functions Using the Graphing Calculator

  F-IF.1, F-IF.2, F-IF.4

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UNIT #3 – FUNCTIONS – 7 LESSONS

- Lesson #6 – Average Rate of Change

  N-Q.1, F-IF.1, F-IF.2, F-IF.6

- Lesson #7 – The Domain and Range of a Function

  F-IF.1, F-IF.2, F-IF.5, F-IF.6

UNIT #4 – LINEAR FUNCTIONS AND ARITHMETIC SEQUENCES – 13 LESSONS

- Lesson #1 – Proportional Relationships

  A-CED.2, F-IF.7(a)

- Lesson #2 – Unit Conversions

  N-Q.1

- Lesson #3 – Nonproportional Linear Relationships

  A-CED.2, F-IF.6, F-IF.7(a), F-LE.1(a)

- Lesson #4 – More Work Graphing Linear Functions (Lines)

  F-IF.7(a), F-LE.1(a)

- Lesson #5 – Writing Equations in Slope-Intercept Form

  A-CED.2, F-LE.2

- Lesson #6 – Modeling with Linear Functions

  N-Q.2, A-CED.2, F-IF.5, F-IF.7(a), F-BF.1(a), F-LE.1(b), F-LE.2, F-LE.5

- Lesson #7 – More Linear Modeling

  N-Q.2, A-SSE.1(a), A-CED.2, F-IF.6, F-BF.1(a), F-LE.1(b), F-LE.2, F-LE.5

- Lesson #8 – Strange Lines – Vertical and Horizontal

  In preparation for A-CED.3 and F-IF.7

UNIT #4 – LINEAR FUNCTIONS AND ARITHMETIC SEQUENCES – 13 LESSONS

- Lesson #9 – Absolute Value and Step Functions

  F-IF.4, F-IF.7(b)

- Lesson #10 – The Truth About Graphs

  A-REI.10

- Lesson #11 – Graphs of Linear Inequalities

  A-REI.12

- Lesson #12 – Introduction to Sequences

  F-IF.3, F-BF.1(a)

- Lesson #13 – Arithmetic Sequences

  F-IF.3, F-BF.1(a), F-LE.2

UNIT #5 – SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES – 8 LESSONS

- Lesson #1 – Solutions to Systems and Solving by Graphing

  A-CED.2, A-REI.6, A-REI.10

- Lesson #2 – Solving Systems by Substitution

  A-REI.6

- Lesson #3 – Properties of Systems and Their Solutions

  A-REI.5, A-REI.6

- Lesson #4 – The Elimination Method

  A-REI.6

- Lesson #5 – Modeling with Systems of Equations

  A-CED.3, A-REI.6

UNIT #5 – SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES – 8 LESSONS

- Lesson #6 – Solving Equations Graphically

  A-REI.11

- Lesson #7 – Solving Systems of Inequalities

  A-REI.12

- Lesson #8 – Modeling with Systems of Inequalities

  A-CED.3, A-REI.12

UNIT #6 – EXPONENTS, EXPONENTS, AND MORE EXPONENTS – 9 LESSONS

- Lesson #1 – Simplifying Expressions Involving Exponents

  A-SSE.3(c)

- Lesson #2 – Zero and Negative Exponents

  A-SSE.3(c)

- Lesson #3 – Exponential Growth

  A-CED.2, F-IF.5, F-BF.1(a), F-LE.1(c), F-LE.2

- Lesson #4 – Introduction to Exponential Functions

  F-IF.6, F-LE.1(c)

- Lesson #5 – Percent Review

  In preparation for A-CED.1, F-LE.1(c), F-LE.2 and F-LE.5

- Lesson #6 – Percent Increase and Decrease

  F-LE.2, F-LE.3, F-LE.5

- Lesson #7 – Exponential Models Based on Percent Growth

  N-Q.2, A-SSE.1(a), A-CED.1, A-CED.2, F-IF.6, F-LE.1(a), F-LE.1(c), F-LE.2

  F-LE.5

UNIT #6 – EXPONENTS, EXPONENTS, AND MORE EXPONENTS – 9 LESSONS

- Lesson #8 – Linear Versus Exponential

  A-CED.2, F-IF.6, F-BF.1(a), F-LE.1 (a-c), F-LE.2

- Lesson #9 – Geometric Sequences

  A-CED.3, F-IF.3, F-BF.1(a), F-LE.2

UNIT #7 – POLYNOMIALS – 6 LESSONS

- Lesson #1 – Introduction to Polynomials

  A-APR.1

- Lesson #2 – Multiplying Polynomials

  A-APR.1

- Lesson #3 – Factoring Polynomials

  A-SSE.1(a), A-SSE.1(b), A-SSE.2

- Lesson #4 – Factoring Based on Conjugate Pairs

  A-SSE.2

- Lesson #5 – Factoring Trinomials

  A-SSE.2

- Lesson #6 – More Work Factoring Trinomials

  A-SSE.2

UNIT #8 – QUADRATIC FUNCTIONS AND THEIR ALGEBRA – 7 LESSONS

- Lesson #1 – Introduction to Quadratic Functions

  A-CED.3, F-IF.4, F-IF.7(a)

- Lesson #2 – More Work with Parabolas

  F-IF.7(a)

UNIT #8 – QUADRATIC FUNCTIONS AND THEIR ALGEBRA – 7 LESSONS

- Lesson #3 – The Shifted Form of a Parabola

  F-IF.7(a), F-BF.3

- Lesson #4 – Completing the Square

  A-SSE.3(b), F-IF.8(a), F-IF.9, F-BF.3

- Lesson #5 – Stretching Parabolas and More Completing the Square

  A-SSE.3(b), F-IF.8(a), F-BF.3

- Lesson #6 – The Zeroes of a Quadratic

  A-SSE.3(a), A-APR.3, A-REI.4(b), F-IF.8(a)

- Lesson #7 – More Zero Product Law Work

  A-SSE.3(a), A-APR.3, A-REI.4(b)

- Lesson #8 – Quadratic Word Problems

  A-SSE.3(a), A-CED.1, A-REI.4(b)

UNIT #9 – ROOTS AND IRRATIONAL NUMBERS – 8 LESSONS

- Lesson #1 – Square Roots

  In preparation for N-RN.3 and I-IF.7(b)

- Lesson #2 – Irrational Numbers

  N-RN.3

- Lesson #3 – Square Root Functions and Shifting

  F-IF.1, F-IF.7(b), F-BF.3

- Lesson #4 – Solving Quadratics Using Inverse Operations

  A-SSE.1(b), A-REI.4(b)

UNIT #9 – ROOTS AND IRRATIONAL NUMBERS – 8 LESSONS

- Lesson #5 – Finding Zeroes by Completing the Square

  N-RN.3, A-SSE.1(b), A-REI.4(a), A-REI.4(b)

- Lesson #6 – The Quadratic Formula

  A-REI.4(a), A-REI.4(b)

- Lesson #7 – Final Work with Quadratic Equations

  A-SSE.3(a), A-REI.4(a), A-REI.4(b)

- Lesson #8 – Cube Roots

  F-IF.1, F-IF.6, F-IF.7(b), F-BF.3

UNIT #10 – STATISTICS – 10 LESSONS

- Lesson #1 – Graphical Displays of Data

  N-Q.1, S-ID.1, S-ID.3

- Lesson #2 – Quartiles and Box Plots

  N-Q.1, S-ID.1, S-ID.2, S-ID.3

- Lesson #3 – Measures of Central Tendency

  N-Q.2, S-ID.2, S-ID.3

- Lesson #4 – Variation within a Data Set

  N-Q.2, S-ID.2, S-ID.3

- Lesson #5 – Two Way Frequency Tables

  S-ID.5

- Lesson #6 – Bivariate Data Analysis

  S-ID.6(a), S-ID.6(c), S-ID.9

UNIT #10 – STATISTICS – 10 LESSONS

- Lesson #7 – Linear Regression on the Calculator

  S-ID.6(a), S-ID.6(c), S-ID.7, S-ID.9

- Lesson #8 – Other Types of Regression

  S-ID.6(a)

- Lesson #9 – Quantifying Predictability

  S-ID.6(a), S-ID.6(c), S-ID.8

- Lesson #10 – Residuals

  S-ID.6(a), S-ID.6(b), S-ID.6(c), S-ID.8

UNIT #11 – A FINAL LOOK AT FUNCTIONS AND MODELING – 8 LESSONS

- Lesson #1 – Function Transformations

  F-IF.1, F-BF.3

- Lesson #2 – Horizontal Stretching of Functions

  F-BF.3

- Lesson #3 – Discrete Functions

  A-CED.3, F-IF.5

- Lesson #4 – Another Look at Linear and Exponential Models

  F-LE.1(a – c), F-LE.5, S-ID.6(a – c)

- Lesson #5 – Step Functions Revisited

  F-IF.7(b)

- Lesson #6 – Piecewise Linear Functions

  A-CED.3, F-IF.6, F-IF.7(b)

- Lesson #7 – Quadratic Models

  N-Q.2

- Lesson #8 – Limits on the Accuracy of Our Models

  N-Q.3

TOTAL LESSON COUNT = 101