WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Algebra I- College Preparatory
Course Number: 00221
Course Prerequisites: Grade of 75% or higher in Pre-Algebra

Course Description: This course provides an in-depth look at the foundation of algebraic theory that will be expanded in Algebra II College Preparatory, and Geometry College Preparatory and additional advanced mathematics courses. It uses practical problems to apply theory and connect algebra to the real world. Algebra I College Preparatory is intended for students planning on pursuing higher education, particularly those whose primary interest are in the fields that require strong background in math or science. A final exam is required. Keystone Exams are required of all students for graduation. If this state-mandated test is not passed, remediation will be required, and students will retake the exam. A recommended grade of 75% or above in Pre-Algebra 8 is required.

Suggested Grade Level: Grade 9
Length of Course: Two Semesters
Units of Credit: 1
PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:
CSPG #50 Mathematics
To find the CSPG information, go to CSPG
Certification verified by the WCSD Human Resources Department: ☒Yes ☐No

WCSD STUDENT DATA SYSTEM INFORMATION

Course Level: Academic
Mark Types: Check all that apply.
☒F – Final Average ☒MP – Marking Period ☒EXM – Final Exam

GPA Type: ☐ GPAEL-GPA Elementary ☐ GPAML-GPA for Middle Level ☒ NHS-National Honor Society
☒ UGPA-Non-Weighted Grade Point Average ☒ GPA-Weighted Grade Point Average

State Course Code: 02052
To find the State Course Code, go to State Course Code, download the Excel file for *SCED*, click on SCED 6.0 tab, and chose the correct code that corresponds with the course.

TEXTBOOKS AND SUPPLEMENTAL MATERIALS

Board Approved Textbooks, Software, and Materials:

Title:	envision Algebra 1
Publisher:	Pearson
ISBN #:	#10: 0-328-93154-3
Copyright Date:	2018
WCSD Board Approval Date:	6/29/2020

Supplemental Materials: kutasoftware.com

Curriculum Document

WCSD Board Approval:

Date Finalized:	6/5/2020
Date Approved:	6/29/2020
Implementation Year:	2020-2021

SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

SCOPE AND SEQUENCE OF CONTENT, CONCEPTS, AND SKILLS

Performance Indicator	PA Core Standard and/or Eligible Content	Month Taught and Assessed for Mastery
Compare and order real numbers	A1.1.1.1, A1.1.1.1.1	September
Find and estimate square roots	A1.1.1.1	September
Find sums and differences of real numbers	A1.1.1.1, A-SSE.2, A-SSE.3	September
Find products and quotients of real numbers	A1.1.1.1, A1.1.1.2, A-SSE.2, A-SSE.3	September
Write algebraic expressions to model word phrases	A1.1.1.2, A1.1.2.1.1, A-CED.1, A-CED.3, A-SSE.2	September
Solve multi-step equations in one variable	A1.1.1.2, A1.1.2.1.1, A-SSE.2, A-SSE.3	September
Use equations to solve consecutive integer problems	A1.1.1.1, A1.1.1.2, A1.1.2.1.1, A1.1.2.1.3, A-CED.1, A-CED.3, A-SSE.1, A-SSE.2, A-SSE.3, A-SSE.1a, A-SSE.1b	September
Solve equations with the variable on both sides	A1.1.1.2, A1.1.2.1.1	September
Understand equations with infinitely many or no solutions	A1.1.1.2, A1.1.2.1.1, A1.1.2.1.3	September
Write and solve equations to model real-world problems	A1.1.1.2, A1.1.2.1.1, A1.1.2.1.3, A-CED.1, A-CED.3, A-SSE.1, A-SSE.1a, A-SSE.1b	September
Use equations to solve distance-rate-time problems	A1.1.1.2, A1.1.2.1.1, A1.1.2.1.3, A-CED.1, A-CED.3, A-SSE.1, A-SSE.1a, A-SSE.1b	September
Construct a proof to justify a solution method	A1.1.1.2, A1.1.2.1.1, A1.1.2.1.2, A-REI.1	September
Rewrite literal equations and formulas to highlight a variable of interest	A1.1.1.2, A1.1.2.1.2, A-CED.4, A-REI.1, A-SSE.2, A-SSE.3, A-SSE.1a, A-SSE.1b	September
Use literal equations and formulas to solve problems	A1.1.1.2, A1.1.2.1.2, A1.1.2.1.3, A-CED.3, A-CED.4, A-SSE.1, A-SSE.1a, A-SSE.1b	September
Write and graph inequalities	A1.1.1.2, A1.1.3.1, A1.1.3.1.2, A-CED.1, A-CED.3	October
Solve one-step inequalities	A1.1.1.2, A1.1.3.1, A1.1.3.1.2, A-CED.1	October
Solve multi-step inequalities	A1.1.1.2, A1.1.3.1, A1.1.3.1.2, A-CED.1, A-REI.1	October
Solve inequalities with the variable on both sides	A1.1.1.2, A1.1.3.1, A1.1.3.1.2, A-CED.1, A-CED.4, A-REI.1, A-SSE.1, A-SSE.2, A-SSE.1a	October
Understand inequalities with infinitely many or no solutions	A1.1.1.2, A1.1.3.1, A-CED.1	October

Write and solve inequalities to model real-world problems	A1.1.1.2, A1.1.3.1, A1.1.3.1.3, A-CED.1, A-CED.3, A-SSE.1, A-SSE.3, A-SSE.1a, A-SSE.1b	October
Understand compound inequalities	A1.1.1.2, A1.1.3.1, A1.1.3.1.1, A1.1.3.1.2, A-CED.1, A-SSE.1, A-SSE.1a, A-SSE.1b	October
Solve a compound inequality involving "OR"	A1.1.1.2, A1.1.3.1, A1.1.3.1.1, A1.1.3.1.2, A-CED.1, A-SSE.1, A-SSE.1a, A-SSE.1b	October
Solve a compound inequality involving "AND"	A1.1.1.2, A1.1.3.1, A1.1.3.1.1, A1.1.3.1.2, A-CED.1, A-SSE.1, A-SSE.1a, A-SSE.1b	October
Use compound inequalities to model and solve real-world problems	A1.1.1.2, A1.1.3.1, A1.1.3.1.1, A1.1.3.1.2, A1.1.3.1.3, A-CED.1, A-CED.3, A-SSE.1, A-SSE.3, ASSE.1a, A-SSE.1b	October
Understand and solve absolute value equations	A1.1.1.2, A1.1.1.3, A1.1.3.1, A1.1.3.1.1, A1.1.3.1.2, A-CED.1, A-SSE.1, A-SSE.2, A-SSE.1a, A-SSE.1b	October
Apply absolute value equations to model and solve real-world problems	A1.1.1.2, A1.1.1.3, A1.1.3.1, A1.1.3.1.1, A1.1.3.1.3, A-CED.1, A-CED.3, A-SSE.1, A-SSE.2, A-SSE.3, A-SSE.1a, A-SSE.1b	October
Understand and solve absolute value inequalities	A1.1.1.2, A1.1.1.3, A1.1.3.1, A1.1.3.1.1, A1.1.3.1.2, A-CED.1, A-SSE.1, A-SSE.2, A-SSE.1a, A-SSE.1b	October
Apply absolute value inequalities to model and solve real-world problems	A1.1.1.2, A1.1.1.3, A1.1.3.1, A1.1.3.1.1, A1.1.3.1.3, A-CED.1, A-CED.3, A-SSE.1, A-SSE.2, A-SSE.3, A-SSE.1a, A-SSE.1b	October
Compute the slope of a linear relationship	A1.1.1.1, A1.2.1.1, A1.2.2.1, A1.2.2.1.1	October November
Graph linear equations in slope-intercept form	A1.1.2.1, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.1, A1.2.2.1.4, A-CED.2, A-REI.10, A-SSE.1a	October November

Write a linear equation from a graph	A1.1.2.1, A1.1.2.1.1, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1.3, A1.2.2.1.4, A-CED.2, A-REI.10, A-SSE.1a	October November
Write linear equations in slope-intercept form	A1.1.2.1, A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2, A-SSE.1a	October November
Write linear equations in slope-intercept form to model real-world problems	A1.1.2.1, A1.1.2.1.1, A1.1.2.1.3, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2, A-CED.3, A-SSE.1a	October November
Interpret the slope and y-intercept of a linear equation that models a real-world problem	A1.1.1.1, A1.1.2.1.3, A1.2.1.2, A1.2.1.2.1, A1.2.2.1, A1.2.2.1.1, A1.2.2.1.2, A1.2.2.1.4, A-CED.3, A-SSE.1a	October November
Write linear equations in point-slope form	A1.1.2.1, A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2, A-SSE.1a	October November
Graph linear equations in point-slope form	A1.1.2.1, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.1, A-CED.2, A-REI.10, A-SSE.1a	October November
Write linear equations in point-slope form to model real-world problems	A1.1.2.1, A1.1.2.1.1, A1.1.2.1.3, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2, A-CED.3, A-SSE.1a	October November
Transform equations from point-slope to slope-intercept form	A1.1.2.1, A1.1.2.1.1, A1.2.1.2, A1.2.1.2.2, A-CED.4, A-SEE.2, A-SSE.3, A-SSE.1a	October November
Compare slope-intercept form to standard form	A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A-SSE.1a	October November
Graph an equation in standard form by using intercepts	A1.1.2.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A-CED.2, A-REI.10, A-SSE.1a	October November
Relate standard form to horizontal and vertical lines	A1.1.2.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2	October November
Write linear equations in standard form to model real-world problems	A1.1.2.1, A1.1.2.1.1, A1.1.2.1.3, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2, A-CED.3, A-SSE.1a	October November
Transform equations from standard form to slope-intercept form	A1.1.2.1, A1.1.2.1.1, A1.2.1.2, A1.2.1.2.2, A-CED.4, A-SSE.2, A-SSE.3, A-SSE.1a	October November
Determine whether lines are parallel, perpendicular, or neither	A1.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1, A1.2.2.1.1	October November
Write an equation of a parallel line	A1.1.2.1, A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2	October November

Write an equation of a perpendicular line	A1.1.2.1, A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2	October November
Use parallel and perpendicular lines in real-world problems	A1.1.2.1, A1.1.2.1.1, A1.1.2.1.3, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2, A-CED.3, A-SSE.1a	October November
Identify the domain and range of a relation	A1.2.1.1, A1.2.1.1.3	November December
Find a reasonable domain and range for a real-world problem	A1.1.2.1.3, A1.2.1.1.3	November December
Identify constraints on a domain	A1.1.2.1.3, A1.2.1.1.3	November December
Identify functions	A1.2.1.1.2, A1.2.1.1.3	November December
Evaluate functions in function notation	A1.1.2.1.1	November December
Write a linear function rule	A1.1.2.1, A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A-CED.2	November December
Write linear functions to model and solve real-world problems	A1.1.2.1, A1.1.2.1.1, A1.1.2.1.3, A1.2.1.2, A1.2.1.2.1, A1.2.2.1.3, A-CED.2, A-CED.3	November December
Identify patterns within a sequence	A1.2.1.1, A1.2.1.1.1, A1.2.2.1	November December
Identify arithmetic sequences	A1.2.1.1, A1.2.1.1.1, A1.2.2.1, A1.2.2.1.2	November December
Write a formula to model arithmetic sequences (explicit formula only!)	A1.1.2.1, A1.1.2.1.1, A1.2.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A-CED.2	November December
Graph arithmetic sequences	A1.1.2.1, A1.2.1.1.1, A1.2.1.2.1, A1.2.1.2.2, A-CED.2, A-REI.10	November December
Solve problems involving arithmetic sequences	A1.1.2.1.1, A1.1.2.1.3, A1.2.1.2, A1.2.1.2.1	November December
Identify the association shown in a scatter plot	A1.2.1.1, A1.2.1.1.1, A1.2.2.1, A1.2.2.2, A1.2.3.2.2	November December
Write the equation of a trend line for a scatter plot	A1.1.2.1, A1.1.2.1.1, A1.2.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.2, A1.2.2.2.1, A-CED.2	November December
Use the graph and/or equation of a trend line to make predictions	A1.1.2.1.1, A1.1.2.1.3, A1.2.1.2, A1.2.1.2.1, A1.2.2.2, A1.2.3.2, A1.2.3.2.2, A1.2.3.2.3, A-CED.3	November December

Verify solutions to systems of equations	A-REI.10	January
Solve systems of equations by graphing	A1.1.2.2, A1.1.2.2.1, A1.2.1.2.4, A1.2.2.1.1, A-REI.6	January
Solve systems of equations by substitution	A1.1.2.2, A1.1.2.2.1, A-REI.6, A-SSE.2, A-SSE.1a	January
Solve systems of equations by elimination	A1.1.2.2, A1.1.2.2.1, A-REI.5, A-REI.6, A-SSE.2, A-SSE.1a	January
Identify systems with infinitely many or no solutions from using any method	A1.1.2.2, A1.1.2.2.1	January
Write systems of equations to model and solve real-world problems	A1.1.2.2, A1.1.2.2.1, A1.1.2.2.2, A-CED.2, A-CED.3, A-SSE.1, A-SSE.1a	January
Write systems of equations to model and solve wind & water current problems	A1.1.2.2, A1.1.2.2.1, A1.1.2.2.2, A-CED.2, A-CED.3, A-SSE.1, A-SSE.1a	January
Determine the number of solutions to a system of equations without solving	A1.2.1.2.4, A1.2.2.1.1, A-SSE.2, A-SSE.1a	January
Graph a linear inequality in two variables	A1.1.3.2, A1.2.1.2.4, A1.2.2.1.1, A-CED.2, A-REI.12	January
Write a two-variable inequality to model a graph	A1.1.3.2, A1.1.3.2.1, A1.2.1.2.4, A1.2.2.1.1	January
Write and graph linear inequalities in two variables to model real-world problems	A1.1.3.2, A1.1.3.2.1, A1.1.3.2.2, A1.2.1.2.4, A1.2.2.1.1, A-CED.3, A-REI.12, A-SSE.1	January
Graph a system of linear inequalities in two variables	A1.1.3.2, A1.2.1.2.4, A1.2.2.1.1, A-REI.12	January
Write a system of linear inequalities in two variables to model a graph	A1.1.3.2, A1.1.3.2.1, A1.2.1.2.4, A1.2.2.1.1	January
Write a system of linear inequalities to model real-world problems	A1.1.3.2, A1.1.3.2.1, A1.1.3.2.2, A-CED.3, A-SSE.1	January
Graph the Absolute Value function	A1.1.1.3, A1.1.2.1, A1.2.1.1, A1.2.1.1.2, A1.2.1.2.6, A1.2.2.1.1, A-CED.2, A-SSE.1	February
Transform the graph of an absolute value function	A1.1.1.3, A1.1.2.1, A1.2.1.1, A1.2.1.1.2, A1.2.1.2.6, A1.2.2.1.1, A-CED.2, A-SSE.1	February
Interpret the graph of an absolute value function that models a real-world situation	A1.1.1.3, A1.1.2.1.1, A-CED.3, A-SSE.1	February
Simplify monomial expressions by using the rules of exponents	A1.1.1.1, A1.1.1.2, A1.1.1.3, A1.1.1.3.1, A-SSE.2, A-SSE.3c	February
Represent real numbers in standard form and scientific notation	A1.1.1.1, A1.1.1.3, A1.1.1.3.1, A-SSE.2	February
Identify exponential functions	A1.2.1.1, A-SSE.3c	February

Evaluate and graph exponential functions	A1.1.1.3, A1.2.1.1, A-SSE.3c	February
Write exponential functions	A1.1.1.3, A1.2.1.1.1, A-CED.2	February
Compare linear and exponential functions	A1.2.1.1	February
Identify exponential growth and decay	A1.1.1.3, A1.2.1.1	February
Write exponential functions to model and solve real-world problems	A1.1.1.1, A1.1.1.2, A1.1.1.3, A1.2.1.1.1, A-CED.2	February
Identify and graph geometric sequences	A1.2.1.1, A-CED.2, A-SSE.3c	February
Write a formula for a geometric sequence (explicit formula only!)	A1.1.1.1, A1.1.1.3, A1.2.1.1.1, A-CED.2, A-SSE.3c	February
Classify polynomials by their degree and number of terms	A-SSE.1a	March
Write polynomials in standard form	A-SSE.2, A-SSE.1a	March
Add and subtract polynomials	A1.1.1.5.1, A-APR.1, A-SSE.1a	March
Multiply polynomials (no larger than a binomial times a trinomial)	A1.1.1.5.1, A-APR.1, A-SSE.1a	March
Find the square of a binomial	A1.1.1.5.1, A-APR.1, A-SSE.2, A-SSE.1a	March
Use the sum and difference pattern	A1.1.1.5.1, A-APR.1, A-SSE.1a	March
Factor polynomials using the GCF	A1.1.1.2.1, A1.1.1.5.2, A-SSE.2, A-SSE.1a, A-SSE.3a	March
Factor trinomials without a leading coefficient	A1.1.1.5.2, A-SSE.2, A-SSE.1a, A-SSE.3a	March
Factor trinomials with a leading coefficient (the leading coefficient is NOT always the GCF)	A1.1.1.2.1, A1.1.1.5.2, A-SSE.2, A-SSE.1a, A-SSE.3a	March
Factor by grouping	A1.1.1.2.1, A1.1.1.5.2, A-SSE.2, A-SSE.1a, A-SSE.3a	March
Factor special-case polynomials (difference of squares, perfect square trinomial)	A1.1.1.5.2, A-SSE.2, A-SSE.1a, A-SSE.3a	March
Factor polynomials completely	A1.1.1.2.1, A1.1.1.5.2, A-SSE.2, A-SSE.1a, A-SSE.3a	March
Use polynomials and their operations to model and solve real-world problems	A1.1.1.5.1, A-CED.1, A-SSE.1, A-SSE.3, A-SSE.1a	March
Simplify rational expressions	A1.1.1.2.1, A1.1.1.5.2, A1.1.1.5.3, A-APR.6, A-APR.7, A-SSE.2, A-SSE.1a	March
Use the Zero-Product Property to solve quadratic equations by factoring	A1.1.1.2.1, A1.1.1.5.2, A-APR.3, A-REI.4, A-SSE.2, A-SSE.3a	April
Use the Product Property of Square Roots to simplify radical expressions (numbers only, no variables!)	A1.1.1.1, A1.1.1.1.2, A-SSE.2	April
Solve quadratic equations by using square roots	A1.1.1.1, A1.1.1.1.2, A-REI.4, A-SSE.2	April

Use quadratic equations to model and solve real-world problems	A1.1.1.5.1, A1.1.1.5.2, A-APR.1, A-CED.1, A-REI.4, A-SSE.1, A-SSE.2, A-SSE.3a	April
Represent and interpret data using various representations (dot plot, histogram, Box-and-Whisker plot)	A1.2.3.1.1, A1.2.3.2, A1.2.3.2.2, CC.2.4.HS.B.1	April
Compare data sets that are displayed with the same representation (dot plot, histogram, Box-and-Whisker plot)	A1.2.3.1, A1.2.3.1.1, A1.2.3.2, A1.2.3.2.2, CC.2.4.HS.B.1	April
Interpret and compare shapes of distributions	A1.2.3.1, A1.2.3.2, A1.2.3.2.2, CC.2.4.HS.B.1	April
Find and make conclusions about measures of center (mean and median)	A1.2.3.2, A1.2.3.2.2, CC.2.4.HS.B.1	April
Compute and interpret the standard deviation of a data set	A1.2.3.1, A1.2.3.2.2, CC.2.4.HS.B.1	April
Compare data sets using the standard deviation	A1.2.3.1, A1.2.3.2, A1.2.3.2.2, CC.2.4.HS.B.1	April
Make and interpret data using a two-way frequency table	A1.2.3.2, A1.2.3.2.2, CC.2.4.HS.B.2	April

ASSESSMENTS

PSSA Academic Standards, Assessment Anchors, and Eligible Content: The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

Formative Assessments: The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

Effective formative assessments for this course include: Suggested but not limited to: Observations, Evaluate written work, Evaluate oral response, student self-evaluation, Cooperative Learning, Homework, Classroom Diagnostic Tool, Projects, Exit Tickets, Quizzes,

Summative Assessments: The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

Effective summative assessments for this course include: Suggested but not limited to: Performance Assessment, Quizzes, and Chapter/Unit Tests