WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Algebra Concepts
Course Number: 00206
Course Prerequisites:

Course Description: This course builds upon computational, problem solving, graphing, and algebraic concepts previously learned in mathematics. Algebra Concepts provides learning experiences required for Algebra I such as linear equations, functions, graphing, geometry, systems of equations and bivariate data. It will provide students with problem-solving, reasoning skills and mathematical concepts necessary to be successful learners in future mathematics courses. Teacher recommendation is required to enroll in the class.

Suggested Grade Level: Grades 9-12
Length of Course: Two Semesters
Units of Credit: None
PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:
CSPG #50
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: 02051
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 Math 2.0
 Publisher: Pearson
 ISBN #: 9780328952588
 Copyright Date: 2017
 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
Write Repeating Decimals as Fraction	CC.2.1.8.E.1	September Choose an item.
Write Repeating Decimals with Non-Repeating Digits as Fractions	CC.2.1.8.E.1	September Choose an item.
Write Repeating Decimals with Multiple Repeating Digits as Fractions	CC.2.1.8.E.1	September Choose an item.
Identify Irrational Numbers	CC.2.1.8.E.1	September Choose an item.
Identify Square Roots and Irrational Numbers	CC.2.1.8.3.4	September Choose an item.
Classify Numbers as Rational or Irrational	CC.2.1.8.E.4	September Choose an item.
Approximate an Irrational Number	CC.2.1.8.E.4	September Choose an item.
Compare Irrational Numbers	CC.2.1.8.E.4	September Choose an item.
Compare and Order Rational and Irrational Numbers	CC.2.1.8.E.4	September Choose an item.
Evaluate Cube Roots to Solve Problems	CC.2.2.8.B.1	September Choose an item.
Evaluate Perfect Squares and Perfect Cubes	CC.2.2.8.B.1	September Choose an item.
Evaluate Square Roots to Solve Problems	CC.2.2.8.B.1	September Choose an item.
Solve Equations Involving Perfect Squares	CC.2.2.8.B.1	September Choose an item.
Solve Equations Involving Perfect Cubes	CC.2.2.8.B.1	September Choose an item.
Solve Equations Involving Imperfect Squares and Cubes	CC.2.2.8.B.1	September Choose an item.
Multiply Exponential Expressions: Same Base	CC.2.2.8.B.1	September Choose an item.
Multiply Exponential Expressions: Different Base	CC.2.2.8.B.1	September Choose an item.
Find the Power of a Power	CC.2.2.8.B.1	September Choose an item.
Divide Exponential Expressions: Same Base	CC.2.2.8.B.1	September Choose an item.
The Zero Exponent Property	CC.2.2.8.B.1	September Choose an item.
The Negative Exponent Property	CC.2.2.8.B.1	September Choose an item.
Expressions with Negative Exponents	CC.2.2.8.B.1	September Choose an item.
Estimate Very Large Quantities	CC.2.2.8.B.1	September Choose an item.

Estimate Very Small Quantities	CC.2.2.8.B.1	September Choose an item.
Find How Many Times as Much	CC.2.2.8.B.1	September Choose an item.
Write Large Numbers in Scientific Notation	CC.2.2.8.B.1	September Choose an item.
Write Small Numbers in Scientific Notation	CC.2.2.8.B.1	September Choose an item.
Convert Scientific Notation to Standard Form	CC.2.2.8.B.1	September Choose an item.
Add or Subtract Numbers in Scientific Notation	CC.2.2.8.B.1	September Choose an item.
Multiply Numbers in Scientific Notation	CC.2.2.8.B.1	September Choose an item.
Divide Numbers in Scientific Notation	CC.2.2.8.B.1	September Choose an item.
Combine Like Terms to Solve Addition Equations	CC.2.2.8.B.3	September October
Combine Like Terms to Solve Subtraction Equations	CC.2.2.8.B.3	September October
Combine Like Terms with Negative Coefficients to Solve Equations	CC.2.2.8.B.3	September October
Solve Equations with Fractional Coefficients	CC.2.2.8.B.3	September October
Solve Equations with Decimal Coefficients	CC.2.2.8.B.3	September October
Solve Equations with Negative Coefficients	CC.2.2.8.B.3	September October
Use the Distributive Property to Solve a Multi-Step Equation	CC.2.2.8.B.3	September October
Distribute a Negative Coefficient to Solve Equations	CC.2.2.8.B.3	September October
Use the Distributive Property on Both Sides of the Equation	CC.2.2.8.B.3	September October
Solve an Equation with Infinitely Many Solutions	CC.2.2.8.B.3	September October
Solve an Equation with One Solution	CC.2.2.8.B.3	September October
Solve an Equation with No Solutions	CC.2.2.8.B.3	September October
Determine the Number of Solutions By Inspection	CC.2.2.8.B.3	September October
Compare Proportional Relationships Represented By Tables and Graphs	CC.2.2.8.B.2	September October
Compare Proportional Relationships Represented By Graphs and Equations	CC.2.2.8.B.2	September October
Compare Proportional Relationships Represented By Graphs and Verbal Descriptions	CC.2.2.8.B.2	September October
Understand Slope	CC.2.2.8.B.2	September October
Find the Slope From Two Points	CC.2.2.8.B.2	September October

Interpret Slope	CC.2.2.8.B.2	September October
Relate Constant of Proportionality to Slope	CC.2.2.8.B.2	September October
Write a Linear Equation From Two Points	CC.2.2.8.B.2	September October
Graph an Equation of the Form y=mx	CC.2.2.8.B.2	September October
Determine the y-Intercept of a Relationship	CC.2.2.8.B.2	September October
Understand the y-Intercept of a Proportional Relationship	CC.2.2.8.B.2	September October
Identify the y-Intercept	CC.2.2.8.B.2	September October
Write the Equation of a Line	CC.2.2.8.B.2	September October
Write a Linear Equations Given It's Graph	CC.2.2.8.B.2	September October
Graph a Given Linear Equation	CC.2.2.8.C.1	September October
Identify Functions with Arrow Diagrams	CC.2.2.8.C.1	October November
Use Tables to Identify Functions	CC.2.2.8.C.1	October November
Interpreting Functions	CC.2.2.8.C.1	October November
Represent a Linear Function with an Equation and a Graph	CC.2.2.8.C.1	October November
Represent a Nonlinear Function with a Graph	CC.2.2.8.C.1	October November
Identify Functions from Graphs	CC.2.2.8.C.1	October November
Compare Two Linear Functions	CC.2.2.8.C.1	October November
Compare a Linear and a Nonlinear Function	CC.2.2.8.C.1	October November
Compare Properties of Linear Functions	CC.2.2.8.C.1	October November
Write a Function From a Graph	CC.2.2.8.C.2	October November
Write a Function from Two Values	CC.2.2.8.C.2	October November
Interpret a Function From a Graph	CC.2.2.8.C.2	October November
Interpret a Qualitative Graph	CC.2.2.8.C.2	October November
Interpret the Graph of a Nonlinear Function	CC.2.2.8.C.2	October November
Describe the Relationship of Quantities	CC.2.2.8.C.2	October November
Sketch the Graph of a Linear Function	CC.2.2.8.C.2	October November
Analyze the Sketch of a Nonlinear Function	CC.2.2.8.C.2	October November
Sketch the Graph of a Nonlinear Function	CC.2.2.8.C.2	October November

Construct a Scatter Plot	CC.2.4.8.B.1	November December
Interpret a Scatter Plot	CC.2.4.8.B.1	November December
Construct and Interpret a Scatter Plot	CC.2.4.8.B.1	November December
Analyze Linear Associations	CC.2.4.8.B.1	November December
Analyze the Strength of Linear Associations	CC.2.4.8.B.1	November December
Recognize Nonlinear Associations	CC.2.4.8.B.1	November December
Use the Slope to Make a Prediction	CC.2.4.8.B.1	November December
Use a Scatter Plot to Make a Prediction	CC.2.4.8.B.1	November December
Interpret the Slope and y-Intercept	CC.2.4.8.B.1	November December
Construct a Two-Way Frequency Table	CC.2.4.8.B.2	November December
Interpret a Two-Way Frequency Table	CC.2.4.8.B.2	November December
Construct and Interpret a Two-Way Frequency Table	CC.2.4.8.B.2	November December
Construct a Two-Way Relative Frequency Table	CC.2.4.8.B.2	November December
Compare Relative Frequency By Rows	CC.2.4.8.B.2	November December
Compare Relative Frequency By Columns	CC.2.4.8.B.2	November December
Relate Solutions of Linear Systems	CC.2.4.8.B.2	December Choose an item.
Estimate Solutions of Systems By Inspection	CC.2.2.8.B.3	December Choose an item.
Estimate More Solutions of Systems By Inspection	CC.2.2.8.B.3	December Choose an item.
Solve a System By Graphing	CC.2.2.8.B.3	December Choose an item.
Graph a System of Equations With No Solutions	CC.2.2.8.B.3	December Choose an item.
Graph a System of Equations With Infinitely Many Solutions	CC.2.2.8.B.3	December Choose an item.
Use Substitution to Solve a System of Equations with One Solution	CC.2.2.8.B.3	December Choose an item.
Use Substitution to Solve a System of Equations with No Solution	CC.2.2.8.B.3	December Choose an item.
Use Substitution to Solve a System of Equations with Infinitely Many Solutions	CC.2.2.8.B.3	December Choose an item.
Solve a System of Equations By Adding	CC.2.2.8.B.3	December Choose an item.
Solve a System of Equations By Subtracting	CC.2.2.8.B.3	December Choose an item.
Solve a System of Equations By Multiplying	CC.2.2.8.B.3	December Choose an item.
Understand Translations	CC.2.3.8.A.2	December January

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Translate a Figure on a Coordinate Plane	CC.2.3.8.A.2	December January
Describe a Translation	CC.2.3.8.A.2	December January
Understand Reflections	CC.2.3.8.A.2	December January
Reflect a Figure on a Coordinate Plane	CC.2.3.8.A.2	December January
Describe a Reflection	CC.2.3.8.A.2	December January
Understand Rotations	CC.2.3.8.A.2	December January
Complete a Rotation	CC.2.3.8.A.2	December January
Describe Rotation	CC.2.3.8.A.2	December January
Understand a Sequence of Transformations	CC.2.3.8.A.2	December January
Complete a Sequence of Transformations on a Coordinate Plane	CC.2.3.8.A.2	December January
Describe a Sequence of Transformations	CC.2.3.8.A.2	December January
Understand Congruence	CC.2.3.8.A.2	December January
Identify Congruent Figures	CC.2.3.8.A.2	December January
Understand Dilations	CC.2.3.8.A.2	December January
Dilate to Enlarge a Figure on a Coordinate Plane	CC.2.3.8.A.2	December January
Understand Similarity	CC.2.3.8.A.2	December January
Complete a Similarity Transformation	CC.2.3.8.A.2	December January
Identify Similar Figures	CC.2.3.8.A.2	December January
Identify Angles Created By Parallel Lines Cuts By a Transversal	CC.2.3.8.A.2	December January
Find Unknown Angle Measures	CC.2.3.8.A.2	December January
Use Algebra to Find Unknown Angle Measures	CC.2.3.8.A.2	December January
Reason about Parallel Lines	CC.2.3.8.A.2	December January
Relate Interior Angle Measures in Triangles	CC.2.3.8.A.2	December January
Find Exterior Angle Measures	CC.2.3.8.A.2	December January
Use Algebra to Find Unknown Angle Measures	CC.2.3.8.A.2	December January
Determine Whether Triangles are Similar	CC.2.3.8.A.2	December January
Solve Problems Involving Similar Triangles	CC.2.3.8.A.2	December January
Understand the Pythagorean Theorem	CC.2.3.8.A.3	February Choose an item.

Use the Pythagorean Theorem to Find the Length of the Hypotenuse	CC.2.3.8.A.3	February Choose an item.
Use the Pythagorean Theorem to Find the Length of a Leg	CC.2.3.8.A.3	February Choose an item.
Understand the Converse of the Pythagorean Theorem	CC.2.3.8.A.3	February Choose an item.
Apply the Converse of the Pythagorean Theorem to Identify Right Triangles	CC.2.3.8.A.3	February Choose an item.
Use the Converse of the Pythagorean Theorem to Analyze Shapes	CC.2.3.8.A.3	February Choose an item.
Apply the Pythagorean Theorem to Solve Problems	CC.2.3.8.A.3	February Choose an item.
Apply the Pythagorean Theorem to Triangles in Three Dimensions	CC.2.3.8.A.3	February Choose an item.
Apply the Converse of the Pythagorean Theorem to Solve Problems	CC.2.3.8.A.3	February Choose an item.
Apply the Pythagorean Theorem to Find the Distance Between Two Points	CC.2.3.8.A.3	February Choose an item.
Find the Perimeter of a Figure on a Coordinate Plane	CC.2.3.8.A.3	February Choose an item.
Use the Pythagorean Theorem to Solve Problems on a Coordinate Plane	CC.2.3.8.A.3	February Choose an item.
Find the Surface Area of a Cylinder	CC.2.3.8.A.1	February March
Find the Surface Area of Cone	CC.2.3.8.A.1	February March
Find the Surface Area of a Sphere	CC.2.3.8.A.1	February March
Relate Volumes of Rectangular Prisms and Cylinders	CC.2.3.8.A.1	February March
Find an Unknown Measure	CC.2.3.8.A.1	February March
Solve Problems Involving Volume of a Cylinder	CC.2.3.8.A.1	February March
Find the Volume of a Cone	CC.2.3.8.A.1	February March
Apply the Pythagorean Theorem to Solve Volume Problems	CC.2.3.8.A.1	February March
Find the Volume of a Cone Given the Circumference of the Base	CC.2.3.8.A.1	February March
Relate Volumes of Cones and Spheres	CC.2.3.8.A.1	February March
Find the Volume of a Sphere Given the Surface Area	CC.2.3.8.A.1	February March
Find the Volume of a Composite Figure	CC.2.3.8.A.1	February March
THE FOLLOWING ARE OPTIONAL PERFORMANCE INDICATORS	Click or tap here to enter text.	Choose an item. Choose an item.
Define and Categorize types of polynomials.	A1.1.1.5.1	April May
Calculate the sum and difference of polynomials.	A1.1.1.5.1	April May
Calculate the product of a polynomial and a monomial.	A1.1.1.5.1	April May
Calculate the product of binomials by binomials.	A1.1.1.5.1	April May

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: Bell Ringers, Worksheets, Exit Tickets, Cooperative Learning, Observations, Written Work, Quizzes, Oral Response, Self-Evaluation, Home Work, and Projects.

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 Assessments, Chapter/Unit Tests, Quizzes, and Projects.