

WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Algebra II CP
Course Number: 00240
Course Prerequisites: A grade of 75% or higher in Algebra I CP

Course Description: Algebra II College Preparatory is one of three courses in the academic sequence. Algebra concepts are an integral part of secondary math courses. This course expands on the foundation of algebraic theory that was begun in Algebra I. It uses practical problems to connect algebra to the real world and apply the theory introduced in Algebra I, going from linear equations and inequalities to complex numbers. It includes the study and applications of quadratics including parabolas. This course is intended for students planning on pursuing higher education, particularly those whose primary interests are in fields that require a strong background in math or science. A grade of 75% or higher is earned in Algebra I CP. District marking period assessments and final exam are required.

Suggested Grade Level: Grades 10-12

Length of Course: Two Semesters

Units of Credit: 1

PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:

CSPG #50 Mathematics (7-12)

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: 02056

To find the State Course Code, go to [State Course Code](#), download the Excel file for SCED, click on SCED 6.0 tab, and choose the correct code that corresponds with the course.

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TEXTBOOKS AND SUPPLEMENTAL MATERIALS

Board Approved Textbooks, Software, and Materials:

Title: *enVision Algebra 2*
Publisher: SAVVAS Learning Company LLC.
ISBN #: 978-0-328-93156-9
Copyright Date: 2018
WCSD Board Approval Date: 6/29/2020

Supplemental Materials: *enVision Algebra 1* - SAVVAS Learning Company, LLC.,
Big Ideas Math - Algebra 2: A Common Core Curriculum - Big Ideas Learning, LLC., Get More Math, pdesas.org, Desmos, Kuta Software, Graphing Calculator: TI-83 PLUS

Curriculum Document

WCSD Board Approval:

Date Finalized: 5/23/2022
Date Approved: 6/13/2022
Implementation Year: 2022-2023

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, AND CONCEPTS

Marking Period 1: Linear Equations, Functions, and Graphs, and Quadratic Functions: Graphs

- Linear Equations (Review)
- Literal Equations/Formulas
- Linear Graphs and Equations (Review)
- Scatterplots
- Characteristics of Quadratic Graphs
- Quadratic Functions in Vertex Form
- Quadratic Functions in Standard Form
- Features of Functions
- Transformations of Functions
- Application of Vertex Form of a Quadratic Function
- Application of Standard Form of a Quadratic Function
- Marking Period 1 Review and Assessment

Marking Period 2: Quadratic Functions, Equations, and Inequalities, and Polynomial Functions

- Quadratic Functions: Factored Form
- Complex Numbers and Operations
- Quadratic Solutions: Square Root Method, Quadratic Formula, Factoring
- Quadratic Inequalities
- Graphs of Polynomial Functions
- Polynomials: Addition, Subtraction, Multiplication
- Division of Polynomials
- Zeros of Polynomial Functions
- Theorems about Roots of Polynomial Equations
- Mid-Term Review and Assessment

Marking Period 3: Rational Exponents and Radical Functions, Exponential and Logarithmic Functions

- nth Roots, Radicals, and Radical Functions
- Properties of Exponents and Radicals
- Graphs of Radical Functions
- Radical Equations
- Function Operations
- Inverse Relations
- Characteristics of Exponential Functions
- Exponential Models: General Exponential Model, Compound Interest, Continuously Compounded Interest
- Logarithms
- Exponential and Logarithmic Equations (SIMPLE)
- Marking Period 3 Review and Assessment

Marking Period 4: Rational Functions, Sequences, and Probability

- Rational Expressions: Multiplication, Division
- Rational Expressions: Addition, Subtraction
- Rational Equations
- Sequences
- Arithmetic Sequences
- Geometric Sequences
- Sample Spaces and Probability
- Odds
- Independent and Dependent Events
- Compound Probability
- Permutations and Combinations
- Final Exam Review and Assessment

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Standards/Eligible Content and Skills

| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
|--|--|------------------------------|
| Review: Solve linear equations: Multi-Step, Variables on Both Sides, Absolute Value | A1.1.2.1.1 A1.1.2.1.2 A1.1.2.1.3 | MP1 |
| Solve a literal equation/formula for a given variable | A2.1.3.2.2 | MP1 |
| Determine how a change in one variable relates to a change in the second variable (e.g., $y = 4/x$; if x doubles, what happens to y ?) | A2.1.3.2.1 | MP1 |
| Review: Graph linear and absolute value functions: Table of Values, $y = mx + b$ (Slope-Intercept Form) | A1.1.2.1.1 A1.1.2.1.3 A1.2.2.1.1 A1.2.2.1.2 A1.2.2.1.3 A1.2.2.1.4 | MP1 |
| Review: Write a linear equation from a graph | A1.2.1.2.1 A1.2.1.2.2 | MP1 |
| Draw, identify, find, interpret, and write an equation for a line of best fit for a scatterplot | A2.2.3.1.1 | MP1 |
| Make predictions using the equations and graphs of lines of best fit | A2.2.3.1.2 | MP1 |
| Identify a quadratic parent function | A2.2.2.1.1 A2.2.2.2.1 | MP1 |
| Understand and graph the function of $f(x) = ax^2$ | A2.2.2.2.1 | MP1 |
| Compare $f(x) = ax^2$ to the parent $f(x) = x^2$ | A2.2.2.2.1 CC.2.2.HS.C.4 CC.2.2.HS.C.5 | MP1 |
| Interpret quadratic functions from tables | A2.2.2.2.1 | MP1 |
| Apply quadratic functions to model and solve real-world and mathematical problems | A2.2.2.2.1 CC.2.2.HS.D.10 | MP1 |
| Understand and graph the function of $f(x) = x^2 + k$ | A2.2.2.2.1 | MP1 |
| Compare $f(x) = x^2 + k$ to the parent $f(x) = x^2$ | A2.2.2.2.1 CC.2.2.HS.C.4 CC.2.2.HS.C.5 | MP1 |
| Understand and graph the function of $f(x) = (x - h)^2$ | A2.2.2.2.1 | MP1 |
| Compare $f(x) = (x - h)^2$ to the parent $f(x) = x^2$ | A2.2.2.2.1 CC.2.2.HS.C.4 CC.2.2.HS.C.5 | MP1 |
| Understand and graph the function of $f(x) = (x - h)^2 + k$ | A2.2.2.2.1 | MP1 |
| Compare $f(x) = (x - h)^2 + k$ to the parent $f(x) = x^2$ | A2.2.2.2.1 CC.2.2.HS.C.4 CC.2.2.HS.C.5 | MP1 |
| Identify the vertex, axis of symmetry, horizontal and vertical translations, and direction of the graph of a quadratic function | A2.2.2.1.1 | MP1 |

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| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
|---|---|------------------------------|
| Graph using vertex form | A2.2.2.1.1 A2.2.2.1.4 | MP1 |
| Use vertex form to model and solve real-world and mathematical problems | A2.2.2.1.1 CC.2.2.HS.D.10 | MP1 |
| Identify the y-intercept, axis of symmetry, and the x-coordinate for the vertex from the standard form of a quadratic function: $f(x) = ax^2 + bx + c$ | A2.2.1.1.4 A2.2.2.1.1 | MP1 |
| Graph a quadratic function in standard form | A2.2.2.1.1 A2.2.2.1.4 | MP1 |
| Compare properties of quadratic functions to solve real world and mathematical problems | A2.2.2.2.1 CC.2.2.HS.D.10 | MP1 |
| Analyze the structure of different forms of quadratic functions | A2.2.2.2.1 | MP1 |
| Understand domain and range | A2.2.1.1.4 A2.2.2.1.1 | MP1 |
| Find x- and y-intercepts | A2.2.1.1.4 A2.2.2.1.1 | MP1 |
| Identify positive and negative intervals | A2.2.1.1.4 A2.2.2.1.1 | MP1 |
| Identify where a function increases or decreases | A2.2.1.1.4 A2.2.2.2.1 | MP1 |
| Translate a quadratic function | A2.2.2.1.4 | MP1 |
| Reflect a function across the x- or y-axis | A2.2.1.1.4 A2.2.2.2.1 | MP1 |
| Understand stretches and compressions | A2.2.1.1.4 A2.2.2.1.1 A2.2.2.2.1 | MP1 |
| Graph a combination of transformations | A2.2.2.2.1 | MP1 |
| Identify transformations from an equation | A2.2.2.2.1 | MP1 |
| Write an equation from a graph | A2.2.2.2.1 | MP1 |
| Transform a quadratic function: Direction, Horizontal Translation, Vertical Translation | A2.2.1.1.4 A2.2.2.1 | MP1 |
| Determine the key features of a quadratic function: Vertex, Axis of Symmetry, Minimum/Maximum, Domain, Range | A2.2.1.1.4 A2.2.2.1 | MP1 |
| Write an equation of a parabola given the key features of a quadratic function | A2.2.1.1.4 A2.2.2.1 | MP1 |
| Write an equation of a parabola given the graph | A2.2.1.1.4 A2.2.2.1 | MP1 |
| Write an equation of a transformed function | A2.2.1.1.4 A2.2.2.1 | MP1 |
| Find the vertex of a quadratic function in standard form | A2.2.1.1.4 A2.2.2.1 | MP1 |
| Graph a quadratic function in standard form | A2.2.1.1.4 A2.2.2.1 | MP1 |

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| PLANNED INSTRUCTION | | |
| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
| Interpret the graph of a quadratic function | A2.2.1.1.4 A2.2.2.1 | MP1 |
| Marking Period 1 Review and Assessment | | MP1 |
| <ul style="list-style-type: none"> Review and extend knowledge of Linear Equations, Functions, and Graphs | | MP1 |
| <ul style="list-style-type: none"> Review and extend knowledge of Quadratic Functions: Graphs | | MP1 |
| Factor quadratic expressions: GCF, Difference of Squares, Trinomial Squares | A2.1.2.2.1 | MP2 |
| Relate factors to zeros of a function | A2.1.2.2.1 A2.1.3.1.1 A2.2.1.1.4 A2.2.2.1.1 | MP2 |
| Solve quadratic equations by factoring | A2.1.2.2.1 A2.1.3.1.1 A2.2.1.1.4 A2.2.2.1.1 | MP2 |
| Find the zeros of a quadratic function | A2.2.1.1.4 A2.2.2.1.1 | MP2 |
| Determine positive or negative intervals | A2.2.1.1.4 | MP2 |
| Write the equation of a parabola in factored form | A2.1.2.2.1 A2.1.3.1.1 A2.2.1.1.4 A2.2.2.1.1 | MP2 |
| Review: Simplify Radicals | A1.1.1.1.2 A2.1.2.1 | MP2 |
| Simplify radicals using the imaginary unit i | A2.1.1.1.1 A2.1.2.1 | MP2 |
| Simplify and evaluate expressions involving powers of i | A2.1.1.1.2 | MP2 |
| Solve a quadratic equation with complex solutions of the form $x^2 = c$, where c is a real number, using square roots | A2.1.1.1.1 A2.1.1.1.2 A2.1.1.2.1 A2.1.2.1 | MP2 |
| Add, subtract, and multiply complex numbers with solutions in the form $a + bi$ | A2.1.1.2.1 A2.1.1.2.2 | MP2 |
| Simplify a quotient with complex numbers in the form $a + bi$ | A2.1.1.2.1 A2.1.1.2.2 | MP2 |
| Use square roots to solve quadratic equations in standard form | A2.1.3.1.1 | MP2 |
| Use the quadratic formula to solve quadratic equations | A2.1.3.1.1 | MP2 |
| Solve quadratic equations using any method: Square Root Method, Quadratic Formula, Factoring | A2.1.3.1 A2.1.3.1.1 A2.2.2.1.1 | MP2 |
| Use the discriminant to identify the number and type of solutions for a quadratic equation | A2.1.3.1.1 A2.2.1.1.4 | MP2 |

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| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
|--|---|------------------------------|
| Graph quadratic inequalities in two variables | CC.2.2.HS.D.10 | MP2 |
| Solve quadratic inequalities in one variable: Graphing, Algebraically | CC.2.2.HS.D.10 | MP2 |
| Classify polynomials | A2.2.1.1.4 A2.2.2.1.1 | MP2 |
| Identify and determine the characteristics of a polynomial function from a graph: Intervals of Increase/Decrease, Turning Points, Intercepts, Relative Maximums/Minimums | A2.2.1.1.4 A2.2.2.1.3 | MP2 |
| Graph a polynomial function using tables/graphing calculators | A2.2.1.1.4 A2.2.2.1.1 A2.2.2.1.3 A2.2.2.1.4 | MP2 |
| Sketch the graph of a polynomial function from a verbal description | A2.2.1.1.4 A2.2.2.1.1 A2.2.2.1.3 A2.2.2.1.4 | MP2 |
| Add, subtract, and multiply polynomial expressions | A2.1.2.2 | MP2 |
| Write and simplify a polynomial function from real-world and mathematical problems | A2.1.2.2 CC.2.2.HS.D.10 | MP2 |
| Use long division to divide polynomials | A2.1.2.2 | MP2 |
| Use synthetic division to divide polynomials by $(x - a)$ | A2.1.2.2 | MP2 |
| Relate $P(a)$ to the remainder of $P(x) \div (x - a)$ | A2.1.2.2 | MP2 |
| Use the Remainder Theorem to evaluate polynomials with synthetic division | A2.1.2.2 CC.2.2.HS.D.5 | MP2 |
| Factor expressions: Grouping, Sum and Difference of Cubes, Quadratic Form | A2.1.2.2.1 | MP2 |
| Factor polynomials completely: GCF, Difference of Squares, Trinomial Squares, Grouping, Sum and Difference of Cubes | A2.1.2.2.1 | MP2 |
| Check whether $(x - a)$ is a factor of $P(x)$ | A2.1.2.2.1 | MP2 |
| Solve polynomial equations by factoring | A2.1.3.1 | MP2 |
| Find and use zeros to graph a polynomial function | A2.2.1.1.4 A2.2.2.1.1 A2.2.2.1.3 A2.2.2.1.4 CC.2.2.HS.D.5 | MP2 |
| Understand how a multiple of a zero can affect a graph | A2.2.1.1.4 A2.2.2.1.1 A2.2.2.1.3 A2.2.2.1.4 CC.2.2.HS.D.5 | MP2 |
| Find real and complex zeros of polynomial functions | A2.1.3.1 A2.2.1.1.4 A2.2.2.1.1 CC.2.2.HS.D.5 | MP2 |

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| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
| Solve polynomial equations | A2.2.1.1.4 A2.2.2.1.1 | MP2 |
| Solve polynomial inequalities by graphing | A2.2.1.1.4 A2.2.2.1.1 A2.2.2.1.3 A2.2.2.1.4 | MP2 |
| Identify possible rational solutions for polynomial equations | A2.2.1.1.4 A2.2.2.1.1 CC.2.2.HS.D.5 | MP2 |
| Use the Rational Root Theorem to solve polynomial equations to determine all the rational roots | A2.2.1.1.4 A2.2.2.1.1 CC.2.2.HS.D.5 CC.2.2.HS.D.10 | MP2 |
| Apply the Rational Root Theorem to model and solve real-world and mathematical problems to determine all the rational roots | A2.2.1.1.4 A2.2.2.1.1 CC.2.2.HS.D.5 CC.2.2.HS.D.10 | MP2 |
| Find all complex roots | A2.2.1.1.4 A2.2.2.1.1 | MP2 |
| Mid-Term Review and Assessment | | MP2 |
| <ul style="list-style-type: none"> Review and extend knowledge of Linear Equations, Functions, and Graphs | | MP2 |
| <ul style="list-style-type: none"> Review and extend knowledge of Quadratic Functions, Equations, and Inequalities | | MP2 |
| <ul style="list-style-type: none"> Review and extend knowledge of Polynomial Functions | | MP2 |
| Find all real nth roots | A2.1.2.1.1 | MP3 |
| Understand rational exponents | A2.1.2.1.1 | MP3 |
| Evaluate expressions with rational exponents | A2.1.2.1.1 | MP3 |
| Simplify nth roots | A2.1.2.1.1 | MP3 |
| Use nth roots to solve equations | A2.1.3.1.2 | MP3 |
| Use nth roots to model and solve real-world and mathematical problems | A2.1.2.1.1 CC.2.1.HS.F.1 | MP3 |
| Use properties of exponents | A2.1.2.1.1 A2.1.2.1.2 A2.1.2.1.3 | MP3 |
| Use properties of exponents to rewrite radicals | A2.1.2.1.1 A2.1.2.1.2 A2.1.2.1.3 | MP3 |
| Rewrite the product or quotient of a radical | A2.1.1.2 A2.1.2.1 A2.1.3.1 A2.1.3.1.2 | MP3 |
| Add and subtract radical expressions | A2.1.2.1.1 A2.1.2.1.2 A2.1.2.1.3 | MP3 |

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| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
| Multiply binomial radical expressions | A2.1.2.1.1 A2.1.2.1.2 A2.1.2.1.3 | MP3 |
| Rationalize a binomial denominator | A2.1.2.1.1 A2.1.2.1.2 A2.1.2.1.3 | MP3 |
| Graph square root and cube root functions | A2.2.2.1.4 | MP3 |
| Identify characteristics of square root and cube root functions: Domain, Range, Increasing/Decreasing | A2.2.1.1.4 | MP3 |
| Graph a transformation of a radical function | A2.2.2.1.4 A2.2.2.2.1 | MP3 |
| Rewrite a radical function to identify transformations from a parent graph | A2.2.2.1.4 | MP3 |
| Solve an equation with one radical; check the solutions | A2.1.3.1.2 | MP3 |
| Identify extraneous solutions in radical equations | A2.1.3.1.2 | MP3 |
| Solve an equation with rational exponents; check the solutions | A2.1.3.1.2 | MP3 |
| Solve an equation with two radicals; check the solutions | A2.1.3.1.2 | MP3 |
| Add and subtract functions | CC.2.2.HS.D.2 | MP3 |
| Multiply functions | CC.2.2.HS.D.2 | MP3 |
| Divide functions | CC.2.2.HS.D.2 | MP3 |
| Compose functions | CC.2.2.HS.D.2 | MP3 |
| Write a rule for a composite function | CC.2.2.HS.D.2 | MP3 |
| Determine the domain and range of a relation | A2.2.1.1.3 | MP3 |
| Represent the inverse of a relation in a table of values | A2.2.1.1.3 | MP3 |
| Find an equation of an inverse relation | A2.2.1.1.3 | MP3 |
| Identify domain, range, and intercepts of exponential functions | A2.2.1.1.4 A2.2.2.1.2 A2.2.2.1.3 | MP3 |
| Graph an exponential function | A2.2.2.1.4 | MP3 |
| Determine whether a function represents exponential growth or exponential decay | A2.2.1.1.4 | MP3 |
| Apply exponential growth and exponential decay formulas in real-world and mathematical problems: General Exponential Model, Compound Interest, Continuously Compounded Interest | A2.1.3.1.4 | MP3 |
| Understand logarithms | A2.1.2.1.4 | MP3 |
| Convert between exponential and logarithmic forms | A2.1.2.1.4 A2.2.2.1.4 | MP3 |
| Evaluate logarithmic expressions | A2.1.2.1.4 | MP3 |
| Evaluate common and natural logarithmic expressions | A2.1.2.1.4 | MP3 |
| Solve SIMPLE logarithmic equations: Common, Natural | A2.1.3.1.3 A2.2.2.1.2 | MP3 |

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| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
| Marking Period 3 Review and Assessment | | MP3 |
| <ul style="list-style-type: none"> Review and extend knowledge of Rational Exponents and Radical Functions | | MP3 |
| <ul style="list-style-type: none"> Review and extend knowledge of Exponential and Logarithmic Functions | | MP3 |
| Write equivalent rational expressions | A2.1.2.2.2 | MP4 |
| Simplify rational expressions | A2.1.2.2.2 | MP4 |
| Multiply and divide rational expressions | A2.1.2.2.2 | MP4 |
| Use multiplication and division of rational expressions to model and solve real-world and mathematical problems | A2.1.2.2.2 | MP4 |
| Identify the least common multiple (LCM) of polynomials | A2.1.2.2.2 | MP4 |
| Add and subtract rational expressions with like and unlike denominators | A2.1.2.2.2 | MP4 |
| Model and simplify rational expressions of real-world and mathematical problems | A2.1.2.2.2 CC.2.2.HS.D.10 | MP4 |
| Simplify compound/complex fractions | A2.1.3.1.2 | MP4 |
| Solve rational equations: Cross Multiplying, Using the Least Common Denominator (LCD) | A2.1.3.1.2 | MP4 |
| Identify extraneous solution(s) | A2.1.3.1.2 | MP4 |
| Solve rational equations with extraneous solution(s); check the solutions | A2.1.3.1.2 | MP4 |
| Model and solve real-world work-rate and rate (speed) problems | A2.1.3.1.2 CC.2.2.HS.D.10 | MP4 |
| Write terms in sequence notation from a given function | A2.2.1.1.1 A2.2.1.1.2 CC.2.2.HS.C.3 | MP4 |
| Identify and describe patterns in a sequence | A2.2.1.1.1 A2.2.1.1.2 | MP4 |
| Graph a sequence | A2.2.1.1.1 A2.2.1.1.2 | MP4 |
| Write a rule for the nth term of a sequence | A2.2.1.1.1 A2.2.1.1.2 CC.2.2.HS.C.3 | MP4 |
| Identify and describe an arithmetic sequence | A2.2.1.1.1 A2.2.1.1.2 | MP4 |
| Write and use a rule for the nth term of an arithmetic sequence given a sequence | A2.2.1.1.1 A2.2.1.1.2 CC.2.2.HS.C.3 | MP4 |
| Write and graph a rule for the nth term of an arithmetic sequence given a term and the common difference | A2.2.1.1.1 A2.2.1.1.2 CC.2.2.HS.C.3 | MP4 |

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| Performance Indicator | PA Core Standard and/or Eligible Content | Marking Period Taught |
| Write a rule for the n th term of an arithmetic sequence given two terms from a list, graph, and table of values | A2.2.1.1.1 A2.2.1.1.2 CC.2.2.HS.C.3 | MP4 |
| Identify and describe a geometric sequence | A2.2.1.1.1 A2.2.1.1.2 | MP4 |
| Write and use a rule for the n th term of a geometric sequence given a sequence | A2.2.1.1.1 A2.2.1.1.2 CC.2.2.HS.C.3 | MP4 |
| Write and graph a rule for the n th term of a geometric sequence given a term and the common ratio | A2.2.1.1.1 A2.2.1.1.2 CC.2.2.HS.C.3 | MP4 |
| Write a rule for the n th term of a geometric sequence given two terms from a list, graph, and table of values | A2.2.1.1.1 A2.2.1.1.2 CC.2.2.HS.C.3 | MP4 |
| Find the indicated number of terms of a sequence given the first term and a rule | A2.2.1.1.1 A2.2.1.1.2 | MP4 |
| Review: Find sample spaces | A2.2.3.2 | MP4 |
| Review: Find theoretical and experimental probabilities | A2.2.3.2 | MP4 |
| Apply the rules of probability to compute probabilities of compound events in a uniform probability model | A2.2.3.2 CC.2.4.HS.B.7 | MP4 |
| Use probability for independent, dependent, or compound events to predict outcomes | A2.2.3.2.3 | MP4 |
| Use the concepts of independence and conditional probability to interpret data | A2.2.3.2 CC.2.4.HS.B.6 | MP4 |
| Identify and determine the odds in favor and/or against occurring | A2.2.3.2.2 | MP4 |
| Use odds to find probability and use probability to find odds | A2.2.3.2.2 | MP4 |
| Use the Fundamental Counting Principal to determine the number of outcomes | A2.2.3.2.1 | MP4 |
| Find the number of permutations | A2.2.3.2.1 | MP4 |
| Find the number of combinations | A2.2.3.2.1 | MP4 |
| Use permutations and combinations to find probabilities of real-world and mathematical problems | A2.2.3.2.1 | MP4 |
| Final Exam Review and Assessment | | MP4 |
| <ul style="list-style-type: none"> Review and extend knowledge of Rational Exponents and Radical functions | | MP4 |
| <ul style="list-style-type: none"> Review and extend knowledge of Exponential and Logarithmic Functions | | MP4 |
| <ul style="list-style-type: none"> Review and extend knowledge of Rational Functions | | MP4 |
| <ul style="list-style-type: none"> Review and extend knowledge of Sequences | | MP4 |
| <ul style="list-style-type: none"> Review and extend knowledge of Probability | | MP4 |

ASSESSMENTS

PDE 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:

- Pre-assessments of prior knowledge (e.g., Entrance cards or KWL chart)
- Bellringers/Problems of the Day (PODs)
- Discussions
- Exit ticket
- Teacher observations/Questioning
- Graphic organizers (e.g., Venn Diagrams, word mapping, webbing, KWL chart, etc.)
- Outlining
- Cooperative learning
- Written work
- Quizzes
- Oral response
- Self-evaluation
- Homework
- Summarizing
- Note-taking

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
- Chapter/unit tests
- Quizzes
- Marking period assessments
- Mid-Term exam
- Final exam
- Projects
- Student presentations