



LINCOLN-WOODSTOCK COOPERATIVE SCHOOL DISTRICT COURSE SYLLABUS

Course Name: Integrated 3 Math

Semester: Full Year

Teacher: Jessica Halm

Course Description: This course builds upon the topics explored in Integrated I and II Mathematics. Key concepts and skills of algebraic and geometric thinking taught in this course, often cited as a requisite for college and career readiness, provide the gateway to advanced mathematics. Key concepts include polynomial operations, properties of rational, irrational, complex, and imaginary numbers, rational expressions, exponential and logarithmic functions, trigonometric functions, equations, and identities, statistics, circles, and other geometric figures and measurement.

Competencies or Standards Assessed:

1. **Symbolic Expression:** Students will reason abstractly and manipulate symbolic expressions and models to represent relationships and interpret expressions, equations, and inequalities in terms of a given context (including real-world phenomena) for determining unknown values.
2. **Numbers and Number Systems:** Students will expand their understanding of number systems, thinking flexibly and attending to precision and reasonableness, when solving problems using complex numbers.
3. **Reasoning and Computational Strategies:** Students will expand the use of computational strategies and algorithms, using evidence to support authentic application.
4. **Metacognitive Skills and Communication:** Students will use reasoning and metacognitive skills to develop mathematical arguments to justify the reasonableness of conjectures and outcomes and to support formal proofs.
5. **Measurement:** Students will explain reasoning when applying and modeling geometric measurement formulas.
6. **Algebraic Functions, Patterns, and Relations:** Students will make use of patterns, relations, and functions to interpret, compare, and analyze pure and applied situations, using the information to make conjectures and support conclusions.
7. **Geometry:** Students will solve problems involving spatial reasoning using properties of 2- and 3-dimensional figures to analyze, represent, and model geometric relationships in pure/theoretical and authentic applied contexts.

Anchor Texts or Major Curriculum:

Textbook:

enVision Integrated Mathematics III. 2019. Pearson. Boston, Massachusetts.

Online Learning Platform: [SavvasRealize.com](https://www.savvasrealize.com)

Course Outline (major units of study):

Unit Title	Essential Question or Overarching Understanding
Topic 1- Linear Functions and Systems	What are the ways in which functions can be used to represent and solve problems involving quantities?
Topic 2- Polynomial Functions	What can the rule for a polynomial function reveal about its graph, and what can the graphs of polynomial functions reveal about the solutions of polynomial equations?
Topic 3- Rational Functions	How do you calculate with functions defined as quotients of polynomials, and what are the key features of their graphs?
Topic 4- Rational Exponents and Radical Functions	How are rational exponents and radical equations used to solve real-world problems?
Topic 5- Exponential and Logarithmic Functions	How do you use exponential and logarithmic functions to model situations and solve problems?
Topic 6- Trigonometric Functions	How are trigonometric functions used to solve real-world problems?
Topic 7- Trigonometric Equations and Identities	How do trigonometric identities and equations help you solve problems involving real or complex numbers?
Topic 8- Data Analysis and Statistics	What questions can you answer by using statistics and normal distributions?
Topic 9- Coordinate Geometry	How can geometric relationships be proven by applying algebraic properties to geometric figures represented in the coordinate plane?
Topic 10- Circles	When a line or lines intersect a circle, how



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	are the figures formed related to the radius, circumference, and area of the circle?
Topic 11- Two- and Three-Dimensional Models	How is Cavalieri's Principle helpful in understanding the volume formulas for solids?

Portrait of a Learner

Independent Learner

I make thoughtful plans and do my best to reach personal goals using feedback to work through challenges.

Responsible Collaborator

I work with others to achieve shared goals by listening actively, contributing ideas, and managing conflict.

Critical Thinker

I analyze information, ask thoughtful questions, and apply reasoning skills to solve problems and make decisions.

Effective Communicator

I express ideas clearly, adapting strategies based on the audience, setting, and/or purpose.

Global Citizen

I show that I care and take responsibility by helping in my community and the world around me.

Additional Classroom Expectations:

Homework (Formatives):

- assigned daily Monday-Thursday via Google Classroom
- accounts for 20% of your overall grade each quarter
- checked and graded based on visually apparent effort, or by randomly selected problem submission
- Students who have fallen behind due to absences, etc., should use the weekends to get caught up

Quizzes, Tests, Written Summaries, Presentations, and Projects (Summatives):

- account for 80% of the overall grade each quarter
- Individual quiz and test responses will be evaluated based on the above rubric
- presentations, written summaries, and projects have their own separate evaluation rubric (attached)
- Traditional tests/quizzes are open notes
- may be corrected for an improved grade (see "Corrections" below)

Summative Corrections:

- Resubmit the original summative, with corrections attached to the front
- Corrections must be made for ***each and every problem/portion for which the student lost points***
- Complete corrections are consistent with a “4” on the above rubric
- notes, classmate, and/or teacher assistance may be used for corrections
- Corrections are due no later than 1 week after the summative is graded and returned to the student

Equipment:

- writing utensil, straightedge, textbook, and preferred note-taking system.
- TI-89 graphing calculators are available for short and long-term loan, course dependent.