Fairfield Ludlowe High School - Fairfield Warde High School

ALGEBRA-2

Ms. Smith & Mr. Clarizio 358

2021-2022 Period 3, Days 2 & 4

ksmith2@fairfieldschools.org & pclarizio@fairfieldschools.org

COURSE DESCRIPTION

Building on the work with linear, quadratic, and exponential functions from Algebra, students in Algebra-2 will extend their repertoire of functions to include polynomial and radical functions. Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of exponents. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

COURSE OBJECTIVES

Students should:

- Use properties of rational and irrational numbers.
- Perform arithmetic operations with complex numbers.
- Use complex numbers in polynomial identities and equations.
- Perform arithmetic operations on polynomials
- Understand the relationship between zeros and factors of polynomials.
- Use polynomial identities to solve problems.
- Extend the properties of exponents to rational exponents.
- Understand solving equations as a process of reasoning and explain the reasoning.
- Understand the concept of a function and use function notation.
- Analyze functions using different representations.
- Build a function that models a relationship between two quantities.
- Build new functions from existing functions.
- Understand independence and conditional probability and use them to interpret data.
- Use the rules of probability to compute probabilities of compound events in a uniform probability model.
- Use probability to evaluate outcomes of decisions.
- Understand and evaluate random processes underlying statistical experiments.
- Make inferences and justify conclusions from sample surveys, experiments, and observational studies.
- Summarize, represent, and interpret data on a single count or measurement variable.
- Extend the domain of trigonometric functions using the unit circle.
- Model periodic phenomena with trigonometric functions.
- Prove and apply trigonometric identities.

UNITS OF STUDY

- Functions
- Polynomial Expressions, Equations, and Functions
- Exponential Expressions, Equations, and Functions
- Sequences and Series
- Probability
- Statistics with Random Processes

- Introduction to Trigonometric Functions

COURSE POLICIES AND REQUIREMENTS

GRADING

Cumulative/In-Progress Grade:

- 10% of the grade will be based on formative assessments, homework completion, or behavior (see FPS BOE *Policy 6154AR*)
- 90% will be based on assessments
  Individual Tests, Projects, Mid-Chapter Tests, Summative Quizzes, etc.

End-of-the-Year Grade:

- 80% of the overall course grade will reflect the student's mastery of course content and skills during the school year through the Cumulative/In-Progress Grade.
- 10% of the End-of-the-Year course grade will be based on the Mid-Year assessment
- 10% of the End-of-the-Year course grade will be based on the Final Assessment.

MATERIALS

A graphing calculator is required for this course.
Recommended materials include a binder with looseleaf & colored pencils.

EXPECTATIONS OF STUDENTS

Students are expected to complete the required coursework as well as any additional practice they deem necessary.

EXTRA HELP

I am always available for extra help.