Algebra 2 Pacing Guide

Algebra II emphasizes polynomial, rational and exponential expressions, equations, and functions. This course also introduces students to the complex number system, basic trigonometric functions, and foundational statistics skills such as interpretation of data and making statistical inferences. Students build upon previous knowledge of equations and inequalities to reason, solve, and represent equations and inequalities numerically and graphically.

Quarter 1

Interpreting Functions

-Interpret functions that arise in applications in terms of the context.

Making Inferences and Justifying Conclusions

-Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

Quantities

-Reason quantitatively and use units to solve problems.

Creating Equations

-Create equations that describe numbers or relationships.

Reasoning with Equations and Inequalities

-Solve equations and inequalities in one variable.

-Solve systems of equations.

Quarter 2

The Real Number System

-Extend the properties of exponents to rational exponents.

Arithmetic with Polynomials and Rational Expressions

-Understand the relationship between zeros and factors of polynomials.

Reasoning with Equations and Inequalities

-Understand solving equations as a process of reasoning and explain the reasoning.

-Represent and solve equations graphically.

The Complex Number System

-Perform arithmetic operations with complex numbers.

-Use complex numbers in quadratic equations.

Quarter 3

Seeing Structure in Expressions

-Interpret the structure of expressions.

-Use expressions in equivalent forms to solve problems.

Building Functions

-Build a function that models a relationship between two quantities.

Arithmetic with Polynomials and Rational Expressions

-Use polynomial identities to solve problems.

-Rewrite rational expressions.

Interpreting Functions

-Analyze functions using different representations.

Building Functions

-Build new functions from existing functions.

Linear, Quadratic, and Exponential Models

-Construct and compare linear, quadratic, and exponential models and solve problems.

-Interpret expressions for functions in terms of the situation they model.

Quarter 4

Trigonometric Functions

-Extend the domain of trigonometric functions using the unit circle.

-Prove and apply trigonometric identities.

Interpreting Categorical and Quantitative Data

-Summarize, represent, and interpret data on a single count or measurement variable.

-Summarize, represent, and interpret data on two categorical and quantitative variables.

Conditional Probability and the Rules of Probability

-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.

*The advanced section of this course will go further in depth and further apply each of these topics to real life situations. The advanced sections will also complete more rigorous assignments, as well as a higher number of assignments.