

Family Friendly Math

GUIDE FOR ALGEBRA II

Log on to the [SC Department of Education website](#), for the complete standards.

Steps to Success

This document is designed to

- Provide examples of the standards, skills, and knowledge your child will learn in mathematics.

The South Carolina College-and Career-Ready Standards for Mathematics:

- Outline the knowledge and skills students must master so that, as high-school graduates, they have the expertise needed to be successful in college or careers.
- Provide a set of grade-level standards, “stair steps,” based on the previous grade’s standards which serve as the foundation for the next grade.
- Ensure that no matter where a student lives in South Carolina, the expectations for learning are the same.



Human knowledge now doubles about every three years. Therefore, revision of South Carolina’s standards occurs periodically to respond to this growth of knowledge and increase of needed skills so our students will be ready for college or jobs. The College-and Career-Ready Standards prepare students for dealing with the growing mass of information by not only emphasizing content knowledge but by also stressing the skills of reasoning, analyzing data, and applying information to examine and solve situations.

South Carolinians developed these academic standards for South Carolina’s children. The Mathematics standards are aligned with the Profile of the South Carolina Graduate, which summarizes the knowledge, skills, and habits employers expect. Developed by business leaders, the Profile is approved by the South Carolina Chamber of Commerce and endorsed by the Superintendents’ Roundtable as well as South Carolina’s colleges and universities. The Profile demands world-class knowledge and skills, and emphasizes critical thinking and problem solving, communication, and interpersonal skills.

DATA, PROBABILITY, AND STATISTICAL REASONING

Algebra 2 with Probability students will explore independent and conditional probability and use the rules of probability to compute probabilities of compound events in a uniform probability model.

- Describe events as subsets of a sample space using symbolic representations such as unions, intersections or complements of other events.
- Use everyday language, recognize and explain the concepts of conditional probability and independent events.
- Use the rules of probability (*Addition and Multiplication Rule*) to compute probabilities of compound events.
- Use permutations and combinations to determine the outcomes in a sample space.

MEASUREMENT, GEOMETRY, AND SPATIAL REASONING

Algebra 2 with Probability students will use the unit circle to explore and analyze sine and cosine functions as it relates to right triangle definitions and models of periodic phenomena.

- Use fractional measures of π to create a unit circle and evaluate sine and cosine using right triangle definitions.
- Evaluate and analyze the time it takes to complete a wave cycle using sine and cosine functions.

NUMERICAL REASONING

Algebra 2 with Probability students will extend their knowledge of the real number system to include complex number system. They will perform operations on complex number system and matrices.

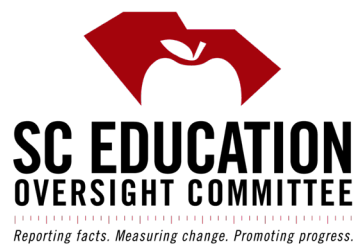
- Understand the imaginary unit i and $i^2 = -1$.
- Add, subtract and multiply complex numbers.
- Perform operations with matrices including addition, subtraction and scalar multiplication.

PATTERNS, ALGEBRA, AND FUNCTIONAL REASONING

Algebra 2 with Probability students will explore and analyze quadratic, exponential, rational, radical, piecewise functions and polynomial functions and inequalities.

- Graph, analyze and solve quadratic, polynomial, rational, radical and exponential functions in real-world situations.
- Recognize perfect squares and perfect cubes to use them to describe the structure of polynomials.
- Perform arithmetic operations on rational expressions and find the sum of the terms of arithmetic and geometric sequences.
- Identify the effect on a graph by replacing the constant of the function and writing the transformed equation.
- Solve linear absolute value inequalities and systems of equations and inequalities.
- Switch the input and output values and verify graphically.

1205 Pendleton Street
Room 502 Brown Building
Columbia, SC 29201
www.eoc.sc.gov



The South Carolina Education Oversight Committee (EOC) is an independent, nonpartisan group of 18 educators, business people, and elected officials appointed by the legislature and governor. The EOC enacts the South Carolina Education Accountability Act of 1998, which sets standards for improving the state's K-12 educational system. The EOC reviews the state's education improvement process, assesses how schools are doing, and evaluates the standards schools must meet to build the education system needed to compete in this century.