

# Algebra 2 Course Content Framework and Content Emphases

This document lists the 2023 New Jersey Student Learning Standards for Mathematics (NJSLS-M) recommended to comprise the Algebra 2 course. The standards are organized by conceptual category, domain, and cluster. Numerals in the “Standard Number” column identify the individual content standards recommended to be included in the course in whole or in part. Underlined numerals indicate standards included in two or more high school courses. For more information, see the Limits and Clarifications for Multi-Course Standards guidance document on the [High School Mathematics Course Frameworks and Content Emphases](https://nj.gov/education/standards/math/hscontent.shtml) webpage.

This document also shows where students and teachers should spend more time, relative to other clusters, in order to meet the expectations of the 2023 New Jersey Student Learning Standards for Mathematics.

Some clusters of standards were written to require greater emphasis than others. This varied emphasis is based on the depth of the mathematical ideas in the cluster, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these particular areas is also necessary for students to meet the Standards for Mathematical Practice. Therefore, not all content in a given grade is emphasized equally in the standards.

To say that some things have greater emphasis is not to say that anything in the Standards can be neglected or omitted in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.

Students should spend the majority of their time on the major work of the grade (**M**). Supporting work (**S**) and, where appropriate, additional work (**A**) can engage students in the major work of the grade

## Number and Quantity Conceptual Category

### The Real Number System (N.RN)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Extend the properties of exponents to rational exponents | 1, 2, 3 | M |

### Quantities (N.Q)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Reason quantitatively and use units to solve problems | 2\* | S |

### The Complex Number System (N.CN)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Perform arithmetic operations with complex numbers | 1, 2 | A |
| B. Use complex numbers in polynomial identities and equations | 7 | A |

## Algebra Conceptual Category

### Creating Equations (A.CED)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Create equations that describe numbers or relationships | 1\* | S |

### Seeing Structure in Expressions (A.SSE)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Interpret the structure of expressions | 2 | M |
| B. Write expressions in equivalent forms to solve problems | 3c\* | M |

### Arithmetic with Polynomials and Rational Expressions (A.APR)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Perform arithmetic operations on polynomials | 1 | M |
| B. Understand the relationship between zeros and factors of polynomials | 2, 3 | M |
| D. Rewrite rational expressions | 6 | S |

### Reasoning with Equations and Inequalities (A.REI)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Understand solving equations as a process of reasoning and explain the reasoning | 1\*, 2 | M |
| B. Solve equations and inequalities in one variable | 4b\* | S |
| C. Solve systems of equations | 6\*, 7 | A |
| D. Represent and solve equations and inequalities graphically | 11\* | M |

## Functions Conceptual Category

### Interpreting Functions (F.IF)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Understand the concept of function and use function notation | 3\* | S |
| B. Interpret functions that arise in applications in terms of the context | 4\*, 6\* | M |
| C. Analyze functions using different representations | 7b\*, 7c, 7e\*, 8b, 9\* | S |

### Building Functions (F.BF)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Build a function that models a relationship between two quantities | 1a\*, 1b, 2 | M |
| B. Build new functions from existing functions | 3\*, 4a | A |

### Linear and Exponential Models (F.LE)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Construct and compare linear and exponential models and solve problems | 2\*, 4 | S |
| B. Interpret expressions for functions in terms of the situation they model | 5\* | A |

## Statistics and Probability Conceptual Category

### Interpreting categorical and quantitative data (S.ID)

|  |  |  |
| --- | --- | --- |
| **Cluster Letter and Heading** | **Standard Number** | **Content Emphasis** |
| A. Summarize, represent, and interpret data on a single count or measurement variable | 1\*, 2\*, 3\*, 4 | S |
| B. Summarize, represent, and interpret data on two categorical and quantitative variables | 5, 6a-b\* | S |