

# Advanced Algebra | Mathematics Common Core State Standards

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## The Complex Number System

1. Perform arithmetic operations with complex numbers.

## Seeing Structure in Expressions

2. Interpret the structure of expressions and write expressions in equivalent forms to solve problems.

## Arithmetic with Polynomials and Rational Expressions

3. Perform arithmetic operations on polynomials and understand the relationship between zeroes and factors of polynomials.
4. Use polynomial identities to solve problems.
5. Rewrite rational expressions.

## Creating Equations

6. Create equations that describe numbers or relationships.

## Reasoning with Equations and Inequalities

7. Understand solving equations as a process of reasoning and explain the reasoning; represent and solve equations and inequalities graphically.

## Interpreting Functions

8. Interpret functions that arise in applications in terms of a context.
9. Analyze functions using different representations.

## Building Functions

10. Build a function that models a relationship between two quantities and build new functions from existing functions.

## Linear, Quadratic, & Exponential Models

11. Construct exponential models and solve problems.

## Trigonometric Functions

12. Extend the domain of trigonometric functions using the unit circle; model periodic phenomena with trigonometric functions, and prove and apply trigonometric identities.

## Interpreting Categorical & Quantitative Data

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

## Making Inferences & Justifying Conclusions

14. Understand and evaluate random processes underlying statistical experiments and make inferences and justify conclusions from sample surveys, experiments, and observational studies.

## Using Probability to Make Decisions

15. Use probability to evaluate outcomes of decisions.

