



# CodeHS & The Common Core Standards

Learning to program on CodeHS satisfies important Common Core Standards at the High School level. The CodeHS curriculum equips students with logical thinking and problem solving skills that are not only fundamental to the study of Computer Science, but apply to High School Mathematics standards across the nation. Below is a breakdown of the mathematical practices that the CodeHS curriculum covers as well as an overview of the specific standards that CodeHS touches on. Both the mathematical practices and the subject overviews are designed and set out by the Common Core State Standards Initiative, and can be found here: <http://www.corestandards.org/Math>.

## Mathematical Practices:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

## Number and Quantity Overview

- ❖ Quantities
  - Reason quantitatively and use units to solve problems

## Algebra Overview

- ❖ Seeing Structure in Expressions
  - Interpret the structure of expressions
  - Write expressions in equivalent forms to solve problems
- ❖ Arithmetic with Polynomials and Rational Functions
  - Perform arithmetic operations on polynomials
  - Rewrite rational functions

- ❖ Creating Equations
  - Create equations that describe numbers or relationships
- ❖ Reasoning with Equations and Inequalities
  - Understand solving equations as a process of reasoning and explain the reasoning
  - Solve equations and inequalities in one variable

## **Functions Overview**

- ❖ Interpreting Functions
  - Understand the concept of a function and use function notation
  - Interpret functions that arise in applications in terms of the context
  - Analyze functions using different representations
- ❖ Building Functions
  - Build a function that models a relationship between two quantities
  - Build new functions from existing functions
- ❖ Trigonometric Functions
  - Extend the domain of trigonometric functions using the unit circle
  - Model periodic phenomena with trigonometric functions
  - Apply trigonometric identities

We are in the process of directly mapping specific Common Core Standards to each of the concepts and exercises that CodeHS teaches.