# MATH

The high school content standards specify the mathematics that all students should study in order to be college and career ready. Additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics is indicated by a (+) symbol, as in this example:

N-CN.4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers).

All standards without a (+) symbol should be in the common mathematics curriculum for all college and career ready students. Standards with a (+) symbol may also appear in courses intended for all students.

### Organization of Standards

The high school standards are listed in **conceptual categories**:

- Number and Quantity (N)
- Algebra (A)
- Functions (F)
- Modeling (★)
- Geometry (G)
- Statistics and Probability (S)

Conceptual categories portray a coherent view of high school mathematics; a student's work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus. Similar to the grade level content standards, each conceptual category (except Modeling, see explanation following the illustration) is further subdivided into several domains, and each domain is subdivided into clusters.

#### Standards Identifiers/Coding

High school content standards are identified first by conceptual category, rather than by grade as for prekindergarten through grade 8 content standards. The code for each high school standard begins with the identifier for the conceptual category code (N, A, F, G, S), followed by the domain code, and the standard number, as shown below.



The standard highlighted above is identified as N-Q.1, identifying it as a standard in the Number and Quantity conceptual category ("N-") within that category's Quantities domain ("Q"), and as the first standard in that domain.

## Introduction: High School Content Standards/CONCEPTUAL CATEGORIES

The star symbol ( $\star$ ) following the standards in the illustration indicates those are also Modeling standards. Modeling is best interpreted not as a collection of isolated topics but in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol ( $\star$ ).

#### Unique Massachusetts Standards

High school content standards unique to Massachusetts are initially coded with "MA." In the illustration on the previous page, the Massachusetts addition "Describe the effects of approximate error in measurement and rounding on measurements and on computed values from measurements. Identify significant figures in recorded measures and computed values based on the context given and the precision of the tools used to measure. ★" is identified as MA.N-Q.3.a., indicating that it is a Massachusetts addition ("MA") to the Number and Quantity conceptual category ("N-") in the Quantities domain ("Q"), and that it is further specification to the N-Q.3 standard.