



# *NC Standard Course of Study (NCSCS) for Mathematics*

## **End-of-Course NC Math 1 and NC Math 3**

### **North Carolina Assessment Specifications**

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#### **Purpose of the Assessments**

- The NC Math I assessment will measure students' proficiency on the [NC Standard Course of Study \(NCSCS\) for Mathematics](#), adopted by the [North Carolina State Board of Education in June 2016](#).
- NC State Board of Education Policy [Delineating Use of End-of-Course Tests for Accountability](#) (GCS-C-003) directs schools to use the results from all operational end-of-course (EOC) assessments as at least twenty percent (20%) of the student's final course grade.
- Assessment results will be used for school and district accountability under the Accountability Model and for Federal reporting purposes.

#### **Curriculum Cycle**

- June 2016: North Carolina State Board of Education adoption of the NCSCS.
- 2016-17: Item development for the End-of-Course (EOC) Assessments, Edition 5.
- 2017-18: Field tested items.
- 2018-19: Operational administration of Edition 5 assessments.

#### **Standards**

- The eight Standards for [Mathematical Practice](#) help develop processes and proficiencies in students such as problem solving, reasoning, proof, communication, representations, and connections as well as conceptual understanding and procedural fluency. Test items that are developed for content standards may link to one or more of the Standards for Mathematical Practice.

#### **Developing Assessments**

- North Carolina educators were recruited and trained to write new items. The diversity among the item writers and their knowledge of the current standards was addressed during recruitment. Trained North Carolina educators also review items and suggest improvements, if necessary. The use of North Carolina educators to develop and review items strengthens the instructional validity of the items.
- For an in-depth explanation of the test development process see State Board Policy [Multiple-Choice Test Development \(TEST-013\)](#) or reference the [Test Development Process: Item, Selection and Form Development](#) (Updated May 2016).

### Prioritization of Standards

- Members of the NCDPI/Test Development Section invited North Carolina educators to collaborate and develop recommendations for a prioritization of standards indicating the relative importance of each standard, the anticipated instructional time, and the appropriateness of the standard for a Multiple-Choice (MC) or Numeric Entry (NE) item format. Subsequently, Standards, Curriculum and Instruction and test development staff from the NCDPI met to review the results from the teacher panels and to develop weight distributions across the domains for each grade level.
- Some content standards in the NCSCS will not be directly assessed in the assessments because either (1) the standard cannot be appropriately assessed during a limited time assessment using multiple-choice and/or numeric entry items or (2) the standard is better assessed through another, more inclusive standard.
- Tables 1, 2 and 3 describe the range of total items by conceptual category and Depth of Knowledge that will appear on the Edition 5 assessments.

*Table 1: Weight Distributions for NC Math 1*

<b>Domain</b>	<b>NC Math 1</b>	<b>Item Count</b>
Number and Quantity and Algebra	36-40%	~19
Functions	32-36%	~17
Geometry	8-12%	~5
Statistics and Probability	18-20%	~9
<b>Total</b>	<b>100%</b>	<b>50</b>

*Table 2: Weight Distributions for NC Math 3*

<b>Domain</b>	<b>EOC NC</b>	<b>Item Count</b>
Number and Quantity and Algebra	32-36%	~17
Functions	32-36%	~17
Geometry	20-24%	~11
Statistics and Probability	8-12%	~5
<b>Total</b>	<b>100</b>	<b>50</b>

*Table 3: EOC NC Math 1 and 3 DOK Summary*

<b>Item Type for NC Math 1 and 3</b>	<b>Min %</b>	<b>Max %</b>
DOK 1	20%	30%
DOK 2	60%	65%
DOK 3	8%	12%

### **Cognitive Rigor and Item Complexity**

Assessment items will be designed, developed, and classified to ensure that the cognitive rigor of the operational test forms align to the cognitive complexity and demands of Webb’s Depth of Knowledge and the NCSCS for Mathematics. These items will require students to not only recall information, but also apply concepts and skills and make decisions.

### **Types of Items and Supplemental Materials**

- NC Math 1 assessment will include both calculator active and calculator inactive sections. The calculator active section will have Multiple-Choice and Numeric Entry item types and the calculator inactive section will have Multiple-Choice, Numeric Entry and Technology Enhance item types. All items will be worth one point each.
- NC Math 3 assessment will only include a calculator active section and will have Multiple-Choice, Numeric Entry and Technology Enhance item types. All items will be worth one point each.
- Students in NC Math 1 and NC Math 3 must be provided a [graphing calculator](#). The online version of these assessments will also have an online calculator. Students may practice using this online Graphing Calculator at: [www.desmos.com/testing/northcarolina/graphing](http://www.desmos.com/testing/northcarolina/graphing). Refer to the assessment brief [North Carolina Testing Program Calculator Requirements](#) for additional information.
- All students must be provided [graph paper](#) and blank papers.
- Schools must ensure students participating in the North Carolina Testing Program completes the Online Assessment Tutorial for the associated assessment at least once at the school before test day. The tutorial provides students the opportunity to practice the mechanics of navigating through the testing platform, to become familiar with the tools, and to respond to the sample items. Refer to the [North Carolina Test Coordinators’ Policies and Procedures Handbook](#) (PDF pages 14, 42, 103) for additional information.

### **Test Cycle and Delivery Mode**

- The EOC assessments are administered to students enrolled in fall and spring courses. A list of course codes that align with the NC Math 1 and NC Math 3 EOC assessment (i.e., *End-of-Course Course Codes*) is available on the [Accountability Services/North Carolina End-of-Course Tests](#) website.
- The end-of-course assessments are required to be administered online through NCTest, the NCDPI’s online assessment platform. There will be a paper accommodated form for both NC Math 1 and NC Math 3 for students with approved accommodation.
- The end-of-course assessments are only provided in English. Native language translation versions are not available. [Chapter 115C-81 Basic Education Program](#) of the North Carolina General Statutes requires all teachers and principals to conduct classes except foreign language classes in English.