



NC Standard Course of Study (NCSCS) for Mathematics

2016–17 End-of-Course Assessment of NC Math 1

North Carolina Assessment Specifications

Purpose of the Assessments

- The NC Math 1 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 READY Accountability Model and for federal reporting purposes.

Standards

- The NCSCS may be reviewed by visiting the North Carolina Department of Public Instruction (NCDPI)/[Mathematics K-12 Standards, Curriculum and Instruction](#) website.
- 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.
- Additional instructional resources are provided by the [NCDPI/K-12 Mathematics team](#).

Developing Assessments

- North Carolina educators were recruited and trained to write new items for the NC Final Exams. 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 Delineating Test Development Process for Multiple-Choice Tests](#) or reference the [Test Development Process: Item, Selection and Form Development](#) (Updated May 2016).

Curriculum Cycle

- June 2016: The North Carolina State Board of Education adopted the revised content standards for NC Math 1 for implementation in the 2016–17 school year.
- 2016–17: First operational administration of EOC Assessment of NC Math 1.

Prioritization of Standards

- Members of the NCDPI/Test Development Section invited teachers 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 or gridded response item format. Subsequently, curriculum 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 EOC assessment because either (1) the standard cannot be appropriately assessed during a limited time assessment using multiple-choice and/or gridded response items or (2) the standard is better assessed through another, more inclusive standard.
- Table 1 describes the percent of total items by conceptual category that will appear on the NC Math 1 EOC assessment. The assessment will consist of multiple-choice and gridded response items. Each item is worth one point.

Table 1: Test Specification Weight Distributions for the 2016–17 EOC Assessment of NC Math 1

| Conceptual Category | NC Math 1 EOC |
|----------------------------|----------------------|
| Number and Quantity | 4% |
| Algebra | 30% |
| Functions | 38% |
| Geometry | 10% |
| Statistics and Probability | 18% |
| Total | 100% |

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 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

- The NC Math 1 assessment will include both calculator active and calculator inactive sections. There are 18 items (6 multiple-choice, 12 gridded response/numeric entry) in the calculator inactive section and 42 multiple-choice items in the calculator active section.
- Students must be provided a graphing calculator, [graph paper](#) and blank paper. Refer to the assessment brief [North Carolina Testing Program Calculator Requirements](#) (October 20, 2016) for additional information.
- Released items are available on the [NCDPI/Accountability Services Division](#) website. Released items may be used by school systems to help acquaint students with items. The released items may not reflect the breadth of the standards assessed and/or the range of item difficulty found on the NC Math 1 EOC assessment. These materials must not be used for

personal or financial gain. The released items are also available to schools through NCTest, the NCDPI's online assessment platform.

- Schools must ensure every student participating in an online assessment for 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.

Testing Structure and Test Administration Time

- The EOC Assessment of NC Math 1 contains 60 items. Included in the total item counts are embedded field test items that will not be included in the score but will be used for purposes of developing items for future test forms.

| NC Math 1 2016-17 | Number of Multiple Choice Items | Number of Gridded Response Items |
|----------------------|------------------------------------|-------------------------------------|
| Operational | 40 | 10 |
| Field Test* | 8 | 2 |
| Total | 48 | 12 |

*Field test items will not be included in the score but will be used for purposes of developing items for future test forms.

- The NCDPI estimates it will take 180 minutes for nearly all students to complete the assessment. The NCDPI requires all students be allowed ample opportunity to complete the assessment. The maximum amount of time allowed is 240 minutes except for students with documented special needs requiring accommodations, such as *Scheduled Extended Time*. Refer to the [North Carolina Test Coordinators' Policies and Procedures Handbook](#) for additional information.

Test Cycle and Delivery Mode

- EOC assessments must be administered during the last five (5) days (4x4/semester courses/summer school) or the last ten (10) days (traditional yearlong schedule) of the instructional period. According to State Board of Education policy, students who are enrolled for credit in courses in which EOC assessments are required shall take the appropriate assessment at the completion of the course. Refer to the [North Carolina Test Coordinators' Policies and Procedures Handbook](#) for additional information.
- A list of course codes that align with the NC Math 1 EOC assessment (i.e., *2016–17 End-of-Course Course Codes*) is available on the [Accountability Services/North Carolina End-of-Course Tests](#) website.

- The end-of-course assessments are administered through NCTest, the NCDPI's online assessment platform. Paper editions are available.
- 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.

Alternate Assessment

- The *NCEXTENDI* alternate assessment is a performance-based alternate assessment designed to assess students with significant cognitive disabilities who are being taught using the Extended Content Standards. The *NCEXTENDI* alternate assessment items are grade-level, performance-based, multiple-choice items that measure the standards specified in the [North Carolina Extended Content Standards](#).
- Eligibility criteria and additional information is available in the *2016 Testing Students with Disabilities: North Carolina Testing Program* document available on the [Accountability Services/Testing Students with Disabilities](#) web page.
- The *NCEXTENDI* alternate assessments will consist of fifteen performance-based, multiple-choice items. All items will be worth one point each.