



## **2003 Standard Course of Study for Advanced Functions and Modeling and Pre-calculus**

### **North Carolina Assessment Specifications Summary**

#### **North Carolina's Final Exams for Advanced Functions and Modeling and Pre-calculus**

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

- North Carolina's Final Exams for Advanced Functions and Modeling and Pre-calculus will measure students' academic progress in the *2003 Standard Course of Study (SCS)*.
- NC Final Exam scores (along with any other relevant end-of-course or end-of-grade assessment scores) will be used in the Educational Value Added Assessment System (EVAAS) to produce student growth measures to satisfy Standards 6 and 8 of the North Carolina Educator Evaluation System.
- NC Final Exams were developed to replace locally developed assessments, providing teachers and principals with a common measure for all students state-wide during a given testing window. NC Final Exam scores will be weighted as a minimum of 20% in course grades.
- NC Final Exams will NOT be used for school and district accountability under the READY Accountability Model or for Federal reporting purposes.
- For more information on the North Carolina Educator Evaluation System go to <http://www.ncpublicschools.org/effectiveness-model/>.

##### **Curriculum Cycle**

- June 2003: North Carolina State Board of Education adoption of the *SCS*.
- 2011–2012: Item development for the NC Final Exams in Advanced Functions and Modeling and Pre-calculus.
- 2012–2013: First year of operational administration of NC Final Exams in Advanced Functions and Modeling and Pre-calculus.

##### **Standards**

- These tests were aligned to the *2003 Standard Course of Study in Advanced Functions and Modeling and Pre-calculus*.

##### **Prioritization of Standards**

- The North Carolina Department of Public Instruction (NCDPI) invited teachers to collaborate and develop recommendations for a prioritization of the standards indicating the relative importance of each standard, the anticipated instructional time, and the appropriateness of the standard for multiple-choice (MC) items. 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.

□ Tables 1 and 2 describe the percentage of score points that will appear on the NC Final Exams forms in Advanced Functions and Modeling and Pre-calculus.

*Table 1. Test Specification Weights for the NC Final Exams in Advanced Functions and Modeling*

2003 Standard Course of Study	Multiple-choice
<i>Data Analysis and Probability</i>	
1.01, 1.02	12%_to_18%
1.03	27%_to_32%
<i>Algebra</i>	
2.01, 2.04, 2.05	35% to 45%
2.02, 2.03	11% to 15%
Total percent of score points	100%

*Table 2. Test Specification Weights for the NC Final Exams in Pre-calculus*

2003 Standard Course of Study	Multiple-choice
<i>Numbers and Operations</i>	
1.01, 1.03	4% to 6%
1.02	8% to 12%
<i>Geometry and Measurement</i>	
2.01, 2.05	22% to 26%
2.02, 2.04, 2.07, 2.08	54% to 60%
2.03, 2.06	4% to 7%
Total percent of score points	100%

**Cognitive Rigor**

□ The Advanced Functions and Modeling and Pre-calculus items were aligned to the content standards using Marzano’s *Thinking Skill Levels*. To read more about North Carolina’s *Thinking Skill Levels* and how they were used to align items to the 2003 SCS read [http://www.ncpublicschools.org/docs/accountability/testing/eog/asb\\_thkskl.pdf](http://www.ncpublicschools.org/docs/accountability/testing/eog/asb_thkskl.pdf).

**Types of Items**

- The NC Final Exams for Advanced Functions and Modeling and Pre-calculus will consist of four-response-option multiple-choice (MC) items.
- The MC items will align to the 2003 *SCS* content as shown in Tables 1 and 2.
- Students are required to use graphing calculators.
- Graphing paper will be available for all Math *NC Final Exams*.
- Formula sheets are posted at <http://www.ncpublicschools.org/accountability/common-exams/>.

**Testing Structure and Time**

- The NC Final Exams in Mathematics will consist of 30 to 36 items. Each form will contain some embedded experimental items not used for scoring. Students will be given 120 minutes to answer all test questions. Students should monitor the clock to ensure they allow themselves adequate time to respond to all test questions.

**Delivery Mode**

- The NC Final Exams are designed for a paper/pencil delivery mode; however, districts may choose to convert to an online delivery mode using their own online administration systems. It is a local decision to determine if the NC Final Exams will be administered either paper/pencil or online.