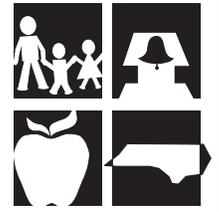


Assessment Brief



Public Schools of North Carolina • State Board of Education • North Carolina Department of Public Instruction • June St. Clair Atkinson Ed.D., State Superintendent

North Carolina Testing Program Calculator Requirements for End-of-Grade and End-of-Course Assessments

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Calculator Use

Calculators are useful tools that link students to the world of technology while allowing them to demonstrate their understanding of complex problems. Several assessments in the North Carolina Testing Program require schools to make calculators available to students. These assessments include End-of-Grade Tests of Mathematics at grades 3–8; the **NCEXTEND2** Alternate Assessment for End-of-Grade Mathematics at grades 3–8; the End-of-Course Tests of Algebra I/Integrated I; and the **NCEXTEND2** Alternate Assessment for Algebra I/Integrated I.

Testing Policy

When applicable, all students must have access to calculators that meet the minimum requirements during the administration of North Carolina assessments. Students are to use calculators that are similar to those used during classroom instruction within the current school year. Students who regularly use more than one calculator during classroom instructional activities may be permitted to use more than one calculator during the test administration. Students may use calculators with more than the minimum requirements (e.g., fraction keys, graphing

capabilities), provided that those additional features are not prohibited. However, school systems should be cautioned that the use of these features (e.g., fraction keys, graphing capabilities) without prior training may confuse students. This may adversely affect their performance during the test administration.

Students are not allowed to share calculators during test administrations nor allowed to use calculators on end-of-grade or end-of-course assessment that include the following functionalities:

- Calculators with wireless communication technologies (e.g., Bluetooth, Infrared, and IEEE 802.11)
- Calculators that use typewriter-style (QWERTY) keyboard
- Calculators with built-in computer algebraic systems (CAS) (systems capable of doing symbolic algebra such as factoring, expanding, or simplifying given variable output and symbolic calculus)
- Calculators built into cell phones or other electronic communication devices (Note: Cell phones or other electronic devices are not permitted for use during state test administrations.)

- Hand-held microcomputers
- Calculators in pen-input/stylus-driven devices (e.g., palm-based devices, tablets, laptop/notebook and computers) (Note: Students participating in online assessments may use computers of electronic devices to respond to test items if the computers/devices meet all technical requirements listed at [http://go.ncsu.edu.nct/.](http://go.ncsu.edu.nct/))
- Pocket Organizers;
- Calculators that use paper tape
- Calculators requiring access to an electrical outlet (except for students needing special accommodations)
- Calculators that make noises of any kind that cannot be disabled (except for students needing special accommodations)

The following list includes calculators not permitted for use on North Carolina assessments. This list is NOT all-inclusive. If the school system test coordinator believes calculator brands other than those listed below may need to be restricted, the he or she must contact the regional accountability coordinator (RAC) for confirmation before excluding them.

- Texas Instruments: All models that begin with TI-89 or TI-92; Voyage 200; N-Spire CAS
- Hewlett-Packard: hp 48GII and all model numbers that begin with hp 40G, hp 49G, or hp 50G
- Casio: Algebra fx 2.0, ClassPad 300, and all model numbers that begin with CFX-9970G

Texas Instruments TI-Nspire calculators without CAS are allowed only in the following two cases: (1) with the TI-84 Plus keypad and (2) with the Nspire keypad using operating system 1.7 or higher with both “limit geometry functions” and “disable function grab and move” invoked in Press-t–Test mode.

As curricula and technology change, the policy concerning calculator requirements on North Carolina assessments will be re-evaluated.

Before beginning and immediately following a test administration that requires calculator use, the test administrator or principal’s designee is required to clear the calculator memory and all applications (including preloaded) from all calculators to be used during each administration of the assessment. Only the test administrator or principal’s designee is allowed to clear the calculator memory and applications of all calculators before and after the administration of the assessment. Procedures for clearing calculator memory (including standard memory, ROM, and Flash ROM) that are appropriate for the specific calculator model(s) must be used. The test administrator or principal’s designee should use caution when clearing calculators because different calculators require different procedures. In some cases the calculator’s memory and applications are cleared or disabled and in others they are deleted (permanently removed).

Because the memory and all applications must be cleared and all data stored in the calculator erased, students who wish to use their own calculators must be told before the test day to back up all data and programs that they wish to save. After the test administration, the test administrator or principal’s designee should enable the memory and applications of the students’ calculators.

Comprehensive clearing procedures for the calculators most frequently used in the state testing program are provided for test administrators in each *Assessment Guide*. In addition, major calculator vendors have support teams who assist test administrators in clearing calculators. Vendor contact information can be obtained through the school system test coordinator.

The minimum calculator requirements for each state test that requires calculator use are listed in the following chart. Additional features (e.g., graphing features) that are not prohibited are allowed but are not required. The North Carolina Department of Public Instruction does not endorse any brand of calculator.

Test	Minimum Calculator Requirements
End-of-Grade Tests Mathematics Grades 3–5	<ul style="list-style-type: none"> • Four-function calculator with memory key
<i>NCEXTEND2</i> Mathematics Grades 3–5	<ul style="list-style-type: none"> • Four-function calculator with memory key
End-of-Grade Tests Mathematics Grades 6-8	<ul style="list-style-type: none"> • Any four-function calculator with a square root function, y^x, π (pi), and algebraic logic
<i>NCEXTEND2</i> Mathematics Grades 6–8	<ul style="list-style-type: none"> • Any four-function calculator with a square root function, y^x, π (pi), and algebraic logic
End-of-Course Test Algebra I/Integrated I	<ul style="list-style-type: none"> • Graphing calculator
<i>NCEXTEND2</i> Algebra I/Integrated I	<ul style="list-style-type: none"> • Graphing calculator
<i>NCEXTEND1</i> Mathematics Grades 6–8 Algebra I/Integrated I Grade 10 and 11 Only	<ul style="list-style-type: none"> • Four-function calculator with memory key

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