

Assessment Brief



Public Schools of North Carolina • State Board of Education • Howard Lee, Chairman • North Carolina Department of Public Instruction

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North Carolina Testing Program Calculator Requirements

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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 tests in the North Carolina Testing Program require students to use calculators. These tests include the Pretest—Grade 3 of mathematics, End-of-Grade Tests of mathematics at grades 3-8, NCEXTEND 2 Test of Mathematics at grades 3-8, End-of-Course Tests of Algebra I, Algebra II, Geometry, Chemistry, Physics, and Physical Science, the Mathematics Competency Test and the High School Comprehensive Mathematics Test.

A virtual calculator is available during the administrations of End-of-Course online tests of Algebra I, Algebra II, Geometry, Chemistry, Physical Science, and Physics tests.

Testing Policy

When applicable all students must have access to calculators that meet the minimum requirements during the administration of North Carolina tests. 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. Students are not allowed to use calculators that include:

- Wireless communication technologies (e.g., Bluetooth, Infrared, and IEEE 802.11);
- Typewriter-style (QWERTY) keyboard;

- Computer Algebraic System (CAS) (systems capable of doing symbolic algebra such as factoring, expanding, or simplifying given variable output and symbolic calculus);
- Included on a cellular phones or other electronic communication devices;
- Hand-held microcomputers;
- Pen-input/stylus driven devices (e.g., palm-based devices, tablets, and handheld or laptop/notebook computers);
- Pocket Organizers;
- Paper tape;
- Requiring access to an electric outlet (except for students needing special accommodations); and
- Elements 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 mathematics and science test.

- Texas Instruments: All model numbers that begin with TI-89 or TI-92; Voyage 200; N-Spire CAS (with the 84 faceplate)
- Hewlett-Packard: hp 48GII and all model numbers that begin with hp 40G, hp49G, or hp50G
- Casio: Algebra fx 2.0, ClassPad 300, and all model numbers that begin with CFX-9970G

As curricula and technology change, the policy concerning technology use on North Carolina tests will be re-evaluated.

Prior to 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 applications of all calculators to be used during the administration of the test. 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 test. Procedures for clearing the 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). For comprehensive clearing procedures on calculators most frequently used in the state, contact the local education agency test coordinator. Major calculator vendors have support teams who can also aid in the clearing of calculators their contact information can be obtained from the Local Education Agency Test Coordinator.

Because the memory and applications must be cleared and all data stored in the calculator erased, students who wish to use their own calculators must be told prior to 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 student's calculator.

The minimum (at least) 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 not required.

Test	Minimum (At Least) Calculator Requirements
Pretest–Grade 3 Mathematics	<ul style="list-style-type: none"> • Four-function calculator with memory key
End-of-Grade Tests 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, $\pi(pi)$, and algebraic logic
End-of-Grade Tests Science Grade 5	<ul style="list-style-type: none"> • Four-function calculator with memory key
End-of-Grade Tests Science Grade 8	<ul style="list-style-type: none"> • Any four-function calculator with a square root function, y^x, $\pi(pi)$, and algebraic logic
NCEXTEND 2 Mathematics Grades 3–5	<ul style="list-style-type: none"> • Four-function calculator with memory key
NCEXTEND 2 Mathematics Grades 6–8	<ul style="list-style-type: none"> • Any four-function calculator with a square root function, y^x, $\pi(pi)$, and algebraic logic
End-of-Course Tests Algebra I & Algebra II	<ul style="list-style-type: none"> • Graphing calculator
End-of-Course Tests Geometry	<ul style="list-style-type: none"> • Scientific calculator
End-of-Course Tests Chemistry, Physics & Physical Science	<ul style="list-style-type: none"> • Scientific calculator
Competency Tests Mathematics	<ul style="list-style-type: none"> • Any four-function calculator with a square root function, y^x, $\pi(pi)$, and algebraic logic
High School Comprehensive Test Mathematics	<ul style="list-style-type: none"> • Graphing calculator

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