

## TCAP Calculator Guidance for Grades 3-EOC

### *Effective 2022-23 School Year*

The TCAP Calculator Policy is based on two concepts:

1. Calculators are important tools and, to be ready for career and college, students need to understand how to use calculators effectively.
2. To demonstrate mastery of the mathematics standards, students must demonstrate many skills without reliance on calculators.

**Therefore, at all grade levels and in all courses, the math assessment will include both calculator-permitted subparts and calculator-prohibited subparts.**

- There will be one calculator-prohibited subpart and two calculator-permitted subparts at all grade levels.
- Information on the types of questions on the calculator-prohibited section of TCAP can be found [here](#).

### Rationale

Calculator functionalities should align with the mathematics in each grade band.

In grades 3-5 mathematics, our state standards focus on **solidifying** a student's computational fluency with whole numbers. Students are also **developing** an understanding of fractions and beginning the process of developing computational fluency with fractions. Students should not have calculator functionalities available to them for concepts that are in the developmental stage. Students in grades 3-5 will be allowed a **four-function** calculator, which does not include any of the prohibited functionalities, such as fractions, on the calculator-permitted subparts.

In grades 6-8 mathematics, our state standards focus on **solidifying** a student's computational fluency with rational numbers. Students are also **developing** an understanding of linear graphing. Students should not have calculator functionalities available to them for concepts that are in the developmental stage. Students in grades 6-8 will be allowed a **four-function or scientific** calculator, which does not include any of the prohibited functionalities, such as linear graphing, on the calculator-permitted subparts.

In high school mathematics, our state standards focus on **solidifying** a student's ability to connect multiple representations for course-appropriate function types. Students are also **developing** an understanding of solving multiple types of algebraic equations. Students should not have calculator functionalities available to them for concepts that are in the developmental stage. Students in end-of-course (EOC) mathematics will be allowed a **four-function, scientific, or graphing** calculator, which does not include any of the prohibited functionalities, on the calculator-permitted subparts.

Students should have the opportunity to interact with technology and the opportunity to demonstrate critical thinking and problem solving with the aid of a calculator. However, to provide an equitable assessment experience for all Tennessee students, the type of calculator used by students should be consistent in functionality.

## Test Administration Guidelines

- It is the responsibility of the test administrator to ensure the regulations outlined in this policy pertaining to calculator use are followed.
- All memory and user-entered programs and documents must be cleared or removed before and after the test.
- A student may use any grade band-specific permitted calculator on the calculator-permitted subparts.
- Students should have access to no more than one handheld calculator device for calculator-permitted subparts.
- For all Grade 6-8 assessments, students will have access to both the TI-30XS and Desmos Scientific calculators embedded within the TestNav platform for both the operational assessment and the online practice test.
- For all EOC assessments, students will have access to both the TI-84 Plus and Desmos Graphing calculators embedded within the TestNav platform for both the operational assessment and the online practice test.

## Handheld Calculator Types

Below are guidelines for permitted and prohibited calculators and functionalities for each grade band. Please note that the guidelines for each grade band are *in addition to* those for all grades.

This is **not an exhaustive list** of calculator types, and students should be familiar with particular functions at the appropriate grade level.

All Grades	Permitted	Prohibited
<b>Calculators</b>	<ul style="list-style-type: none"> <li>• Casio HS 4 Basic</li> <li>• Sharp ELSI Mate EL-2405A</li> <li>• TI-108</li> </ul> <p>This is <b>not an exhaustive list</b> of permitted calculator models. Please reference the permitted functionalities for models not listed here.</p>	<ul style="list-style-type: none"> <li>• Casio CFX-9970</li> <li>• HP-40G</li> <li>• TI-89</li> <li>• TI-NSpire (CAS version)</li> </ul>
<b>Functionalities</b>	<ul style="list-style-type: none"> <li>• Addition</li> <li>• Subtraction</li> <li>• Multiplication <math>\times</math></li> <li>• Division</li> <li>• Square root (<math>\sqrt{xxxx}</math>)</li> <li>• %</li> </ul>	<ul style="list-style-type: none"> <li>• Any calculator with CAS (computer algebra system) capabilities (including any programs or applications)</li> <li>• Wireless communication capability</li> <li>• QWERTY keyboard</li> <li>• Cell phones, tablets, iPads, etc.</li> </ul>

Grades 3-5	Permitted	Prohibited
<b>Calculators</b>	See <i>All Grades</i>	<ul style="list-style-type: none"> <li>• Casio FX260</li> <li>• Sharp EL344RB</li> <li>• TI-15</li> <li>• TI-30XA</li> <li>• TI-30IIS</li> <li>• TI-34</li> <li>• TI-84 plus family</li> <li>• TI-NSpire (non-CAS) and TI-NSpire-CX (non-CAS)</li> </ul>
<b>Functionalities</b>	See <i>All Grades</i>	<ul style="list-style-type: none"> <li>• Fraction manipulation</li> <li>• Fraction to decimal conversions/decimal to fraction conversions</li> <li>• Square key (<math>x^2</math> or <math>x^y</math>)</li> <li>• Pi (<math>\pi</math>)</li> <li>• Graphing capability</li> <li>• Data entry</li> <li>• Matrices</li> <li>• Regression</li> <li>• Trigonometric functions (sine, cosine, tangent)</li> <li>• Logarithm (log and/or ln) and exponential functions (<math>a^x</math> and/or <math>e^x</math>)</li> </ul>
Grades 6-8	Permitted	Prohibited
<b>Calculators</b>	<ul style="list-style-type: none"> <li>• Casio FX260</li> <li>• Sharp EL344RB</li> <li>• TI-15</li> <li>• TI-30IIS</li> <li>• TI-30XA</li> <li>• TI-30XS</li> <li>• TI-34</li> </ul> <p>This is <b>not an exhaustive list</b> of permitted calculator models. Please reference the permitted functionalities for models not listed here.</p>	<ul style="list-style-type: none"> <li>• TI-84 plus family</li> <li>• TI-NSpire (non-CAS) and TI-NSpire-CX (non-CAS)</li> </ul>
<b>Functionalities</b>	<ul style="list-style-type: none"> <li>• Fraction manipulation</li> <li>• Square key (<math>x^2</math> or <math>x^y</math>)</li> <li>• Pi (<math>\pi</math>)</li> <li>• Trigonometric functions (sine, cosine, tangent)</li> </ul>	<ul style="list-style-type: none"> <li>• Graphing capability</li> <li>• Matrices</li> </ul>

EOC	Permitted	Prohibited
<p><b>Calculators</b></p>	<ul style="list-style-type: none"> <li>• Casio FX260</li> <li>• Sharp EL344RB</li> <li>• TI-15</li> <li>• TI-30IIS</li> <li>• TI-30XA</li> <li>• TI-30XS</li> <li>• TI-34</li> <li>• TI-84 plus family</li> <li>• TI-Nspire (non-CAS) and TI-Nspire-CX (non-CAS)</li> </ul> <p>This is <b>not an exhaustive list</b> of permitted calculator models. Please reference the permitted functionalities for models not listed here.</p>	<p><i>See All Grades</i></p>
<p><b>Functionalities</b></p>	<ul style="list-style-type: none"> <li>• Fraction manipulation</li> <li>• Graphing capability</li> <li>• Data entry</li> <li>• Square key (<math>x^2</math> or <math>x^y</math>)</li> <li>• Pi (<math>\pi</math>)</li> <li>• Trigonometric functions (sine, cosine, tangent)</li> <li>• Matrices</li> <li>• Regression</li> </ul>	<p><i>See All Grades</i></p>