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1. Introduction to the GED Calculator

1.1 When the Calculator will be available

The GED Calculator (TI-30XS) will be available on-screen for most items for the 2014 Mathematical Reasoning test, and some of the items on the 2014 Science and Social Studies tests.

1.2 How to access and move the Calculator on-screen

The Calculator is built into the GED test software on the computer. You cannot use a hand-held version.

You can access it during the test by clicking on ‘Calculator’ in the top left-hand side of the test.

This will open the GED Calculator window, within the test window.

You can move the calculator around within the test window, by clicking and dragging the top bar of the Calculator window, see next page.
You close it again by clicking on the ‘x’ in the top right-hand corner of the Calculator window.

1.3 The Main Keys

The **clear** key is used to clear the display after you have completed the desired calculations.
1.4 Calculator Reference Sheet

It is possible to open the Calculator Reference sheet whenever you have access to the calculator. Do this by clicking on the Calculator Reference button in the upper right-hand corner of the screen during the test.

The Calculator Reference sheet explains the basic operations, and can be referred to when you are confused about how to complete certain operations on the calculator.

2. Standard Operations

2.1 Addition, Subtraction, Multiply, and Divide

This is how to calculate five plus four. \((5 + 4 =)\)
The screen will display the answer ‘9’ once the enter key is pressed.

This is how to calculate seven minus four. \((7 - 4 =)\)
The screen will display ‘3’ once the enter key is pressed.

This is how to calculate two times four. \((2 \times 4 =)\)
The screen will display ‘8’ once the enter key is pressed.

This is how to calculate six divided by two. \((6 / 2 =)\)
The screen will display ‘3’ once the enter key is pressed.

Note: The negative key \((-)\) is not the same as the subtract key \((-)\).
### 2.2 Powers and roots

To perform calculations with powers and roots, you will use the following keys:

- **This key is for the square function.**

- **The second function of this key is for calculating square roots.**

- **This key is for the exponent function (exponents over 2).**

- **The second function of this key is for roots over 2.**

#### Example

<table>
<thead>
<tr>
<th>Expression</th>
<th>keystrokes</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1.2^2)</td>
<td>1 . 2 ^ 2</td>
<td>1.44</td>
</tr>
<tr>
<td>(7^4)</td>
<td>7 ^ 4</td>
<td>2401</td>
</tr>
<tr>
<td>(\sqrt{529})</td>
<td>2nd √ 5 2  9</td>
<td>23</td>
</tr>
<tr>
<td>(\sqrt[3]{1728})</td>
<td>3 2nd √ 1 7 2 8</td>
<td>12</td>
</tr>
</tbody>
</table>

#### Note:

The answer for **square roots** will be displayed as a whole number or a simplified root. The answer for **roots over 2** will be displayed as a whole number or a decimal.

Example:

What is the square root of 18? \(\sqrt{18}\)
2.3 Fractions

When doing fractions you use the \( \dfrac{a}{b} \) key.

Once you have pressed this key, you will be able to input the value of the *numerator*. You will then need to use the down arrow key to move from the numerator to the *denominator*. When you have completed the fraction, press the right arrow key to ‘move out’ of the fraction. Now you can use other functions as normal.

\[
\frac{2}{9} \times \frac{3}{7} =
\]

The correct answer = \( \frac{2}{21} \)

**Note:** The answer will be displayed in reduced form automatically.

2.4 Mixed Number Fractions

When performing calculations with mixed numbers, use the *second function* of the fraction key:

First input the whole number part of the mixed number, then the 2\(^{nd}\) and fraction keys. Then enter the numerator and denominator as normal, using the down and right arrow keys.

\[
12\ \frac{5}{6} - 1\ \frac{1}{2} =
\]

The correct answer = \( \frac{34}{3} \)

**Note:** Mixed numbers are converted to improper fractions when enter is pressed.

2.5 Scientific Notation

When performing calculations with numbers expressed in scientific notation, use the \( \times 10^n \) key.

First, enter the base number, then the *scientific notation* key, followed by the exponent. Finally, click the right arrow key to ‘move out’ of the scientific notation and continue with your calculation.
The answer will be displayed as a whole number or a decimal.

## 2.6 Percentages

Press the \( \text{2nd} \) key to calculate with percentages.

**Example**

\[
7.8 \times 10^8 - 1.5 \times 10^8 =
\]

The correct answer = 630000000

To convert a decimal or a fraction to a percentage, press the \( \% \) key, followed by \( \text{enter} \).

### 3. Other Useful Functions

#### 3.1 Toggle Key

The answer toggle key can be used to change how answers are displayed.

For example, if your answer is shown as a fraction, pressing the toggle key will convert the fraction to a decimal. If you answer is a square root, pressing the toggle key will convert it to a decimal.

**Example**

\[
\frac{9}{10} =
\]

The correct answer = 0.9

#### 3.2 Fraction and Mixed Number Toggle Key

You can use the \( \text{2nd} \) key to toggle between an answer displayed as a fraction or a mixed number.

For example, if your calculation results in an answer shown as an improper fraction, you can use the fraction to mixed number toggle key to convert it into a mixed number. Do this by pressing the \( \text{2nd} \) key, then the scientific notation key, and then press \( \text{enter} \) to display the mixed number.

This function can also be used to convert a mixed number into an improper fraction, in the same way.
**3.3 Correction**

If you accidentally press the wrong key, before you press enter you can use the left arrow key to go back and correct the error. The cursor (the flashing black square) will move left, highlighting a number or function you entered. When you reach the one with the error, press clear to erase it, and continue with your calculation.

For example; you accidentally press the 7 key instead of the 8 key. Before you press enter and compute the answer, press the left arrow key so that the flashing cursor is over the 7 on the screen, then press clear. This will erase the 7, so that you can enter the correct number. This works with functions as well as numbers.

**3.4 The ‘ans’ (answer) Key**

If you want to use the answer from one calculation in the next calculation, you use the ans function.

Do this by pressing the 2nd and negative keys as you type in the calculation, and the answer to the previous calculation will be included in the computation.

For example; you do a calculation and the answer is 8.7523304. If, in your next calculation you want to use this number, instead of typing it out manually, you can simply press the 2nd and negative keys and the word 'ans' will show up in the display signifying that the previous answer will be used in the following calculation.

**Note:** Do not clear the display between calculations if you intend to use the ans function. If you press the clear key after the first calculation, the answer will be cleared, and the ans function will not work.

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**4. Extra resources**


This is an interactive tutorial which will help you understand how the calculator will be accessed in the test.

**4.2 “Introduction to the GED Calculator” video** - https://www.youtube.com/watch?v=VoLZLsRXuKE

The official online training video for the TI-30xs GED Calculator. If you can’t click on the link, find the video on YouTube by searching for “introduction to GED calculator video”. (Spanish video also available)


This page also provides links to the above two resources, and additionally includes more downloads and other free resources for helping you get your GED.

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**Now you can use the GED Scientific Calculator. Good luck in the tests!**