

Ti-Nspire CX Cas Graphing Calculator

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In the world we are all living in today, mathematical calculations are everywhere. They are in businesses, schools, construction, accounting offices, and design, among others. Some of these calculations are hard enough to the point they cannot be done manually. Calculators are crucial, most likely scientific ones. Scientific calculators have [functions](#) and calculations that some other calculators cannot perform. Common calculators do simple tasks like addition and division, but complex ones do even algebraic equations and graphs like the Yi-Nspire CX calculator. Due to the many functions available, calculators are most suitable in environments where there are a lot of complex and graphical mathematical calculations, such as colleges and areas of higher learning.

The TI-inspired CX CAS is one of the latest graphical calculators manufactured by the Texas Instruments Company (Davis, 2015). It is one of the advanced ones since it is an improvement of the other versions of the same company. The CAS means Computer Algebra System. It is a unique feature available on this machine that can handle a lot of tedious and difficult mathematical equations if handled by the human brain. The best part is the calculator's answers are in the exact number form, excluding a case where the decimal is required. There are other features related to the calculator; they include applications that can draft shapes, analyze and collect data, make spreadsheets, and handle all the elements involved in statistics. It is designed like a mobile with a rechargeable battery, a slim design, and a coloured interface, which makes it look great.

For an alternate new calculator crazy there, the Nspire cx CAS offers a rechargeable battery (Flores, 2015). At the same time, some models for [graphing calculators](#) utilize four AAA batteries; this version gives you access through a supplied cord, comparable with an iPhone or iPod. The majority of understudies say that a person's accusations might most likely be up to a month for general moderate utilization of the number cruncher.

Battery For Longer Use

The calculator has some of the best features, hence its great advantage (Thompson, 2016). Coordinated circuit math templates allow people to enter expressions. Furthermore, see math symbols and formulas stacked in portions in the same way that they need aid printed over textbooks and on the board. The interesting Chem box characteristic gives scholars undoubtedly information on compound formulas And equations.

Use natural drop-down menus to explore through the TI-Nspire™ cx CAS handheld. Making documents saves your worth of effort, likewise, mainly concerning illustration opening, altering, and storing files by looking at a workstation.

There are some downsides, though, of the calculator. The machine's user interface is document-based. This means that it is less user-friendly since you can't find everything on the screen at the same time. The other demerit is that its programming capacity is not as strong compared to the calculators related to it.

Making a program is more monotonous than we might suspect it must be. You begin by making another record, and after that, inside that archive, start another program or capacity. When you make another program, you can alter it like the way you change on a TI-84/83 by choosing charges from menus. In any case, there are way fewer charge alternatives, and they forgot probably the most vital ones, similar to menus. The programming dialect itself is likewise a marginally unexpected form in comparison to it is on the TI-84/83 models. Along these lines, at last, this exceptionally just abandons you with one choice. That is, making a program that takes in a handful of numbers and, after a split second, yields an outcome (Stewart, 2015).

Overall, you can't get to the program from any screen or report aside from the one you made it in. This implies that, on the off chance that you are doing counts on the adding machine screen, you can't merely rapidly run a program and, after that, backpedal to what you were doing. You need to leave the number cruncher screen, open the archive with the program, and run from that point on.

How The Calculator Looks.

Calculator Usage

Turning On

For the calculator to function, it must be turned on using a button.

From the above picture, there is a button on the right side. If pressed, the screen goes to the home screen by default, and then one is ready for any calculations related to the calculator. The handheld is on as the load of the operating system.

Turning Off

On the same button, there is the off symbol. There is no off button, so you have to click the control button plus the on button to turn it off, and the memory is wiped.

Starting The Calculator For The First Time

As explained above, to begin with, the battery is charged, and then the handheld is powered on and

off. Another important feature that helps conserve the battery for a longer period is automatic power down. The APD button allows the calculator to power off after three minutes of inactivity. The advantage of this is that the memory is not wiped. One will go to the last activity that was in progress and continue. To alter the power settings, one should click “on”, 5, and 3 to go to the handheld setup.

If it is the first time dealing with a computer, there is a need to adjust the language according to what a person understands. It is done after the OS is loaded. There are different languages, including English, US, and UK. After selecting, one should press ok and then be ready to start (Mickle, 2015).

The display is important; hence, the font size should be adjusted according to the user (Urban-Woldron, 2015). One should navigate to font size, open the dropdown menu, choose the preferred size, and press enter to select it. There is also the screen brightness. To add the light, long press the control button, then tap the + button, and to reduce, do the same, but tap the - button.

Touchpad

The touchpad, as shown above, can help one navigate since it has up, down, left, and right together with an enter key. The touchpad works in two ways, though. One is by using it like a mouse by using the fingers in a sliding motion to move the cursor to the point of destination and tap at the centre to select an option. The second option is to use the arrows to move the pointer and then click enter or tab to complete the action. Also, note that the touchpad can also be customized according to what the user wants. The pointer can be set to move fast or slow, among others.

Scratchpad

A scratchpad application acts as a shortcut to doing calculations while working on a document. If a calculation needs to be done immediately without affecting the document, one opens the scratchpad, does the calculations, and later either discards without modifying the document or adds the calculation to the document.

Using The Home Screen

It is the starting point of all activities to be done on the handheld (Gallegos, 2015). The activities done here include:

- The opening of the scratchpad to do mathematical calculations
- Creation of new documents
- Management and reopening of other existing documents in the memory
- Settings management and status viewing
- Accessing the hints for operating the handheld

- Retrieving new documents
- Going back to the newly opened document

Something to note is that to return to any place or home screen, one needs to press on.

There Are Some Home Screen Options

- Scratchpad: As explained earlier, it is used to navigate between calculations and the document being worked on at the current moment. It is divided into two, though
- Calculations: to open the scratchpad with an active calculator, one just clicks A from the home screen. These give the user access to any calculations that the calculator can do. From all simple calculations to powers and roots, algebraic calculations, logarithms, and more.
- Graph: to activate the graph, at the home screen, one types B and the graph is active. From this, one can do any graphical calculations involving the x and y-axis and more.
- Documents: To activate these, one just uses the associated numbers or the touchpad to select a specific icon and later press enter or tab on the touchpad. There are various types of documents.
- New document: it opens the calculator's document associated with the available applications
- My documents: it opens existing documents that were saved or some files that were sent to others
- Recent: This opens the list of the five most recent documents that were saved recently.
- Current: as the name suggests, it opens the document that is open at that immediate time.
- Settings: It checks the handheld status and also changes settings.

Application icons: a user might need to add a new page to an ongoing document, he/she needs to click the application icon, and if there is no current document, a document opens with the current application which has been activated at the new page. There are different kinds of these applications, as explained below.

- Calculator: if clicked, it adds a page to the doc where mathematical expressions can be entered and evaluated.
- Graphs: if the icon is clicked, it adds to the page the exploring options and graphing properties
- Geometry: the icon adds a page to the document where geometric shapes can be created and explored.
- Spreadsheets: the icons add tables where tables can be added data and analyzed and interpreted.
- Statistics: This is an important icon that adds the tools needed for the visualization of data sets about different plots. It also gives tools for data manipulation so that relationships between sets of data can be explored.
- Notes: the icons help in text addition to the current documents being active. This helps when it comes to sharing with other users also.

- Vernier Dataquest: The icons help collect and analyze the data immediately from instruments like probes and sensors.

The Handheld Screen Functions

Every icon in the above handheld screen has its functions. The icon and its functions are described below.

1. Page scrolling arrows: The user can use the touchpad and the arrows to scroll through the document pages. It's fast, and an essential function in the calculator since navigation is a must for all devices to be user-friendly.
2. Page tabs: These tabs are used to show the problem number followed by the page number. If the user moves the pointer to the tab where problems are named, it is programmed to display the page name.
3. Document name: It functions to show the document name and also shows the changes that were made when the document was altered last by the user.
4. Press to test. It indicates that the handheld is in a mode of the press to test
5. Login shows the login status of the handheld. It can either be loaded to get an access point, which is known as blinking state, solid if it has found an access point, it is not communicating, can be ready for login, or can be logged in and also charged, which is indicated by a solid arrow. The user should click the icon to see his/her login status here.
6. It involves the shift, CAPS, and CTRL status.
7. Status and the setting: The icon, if clicked, shows the battery supply level status. The user can also change the settings from here.
8. Close document: as the name suggests, if the user clicks the icon, the current document will be closed. If the user has not saved, he/she will be prompted to discard or save the changes. It uses an operating system and hence has features similar to those of a desktop or a laptop.

Hints

Hints are quick shortcuts that help the user to do specific functions faster and without a lot of complications. They are available in the handheld software. There are very many ways one can access hints in the calculator. They include

- Pressing CTRL and TRIG buttons
- Some dialogue boxes have question marks; the user should just click the icon, and the hint will be opened for that specific task.
- So that the user can scroll down, the hints, arrows, or the touchpad should be used.
- So that one can page down, use CTRL 3
- For paging up, use CTRL 9

- So that the user can navigate up to the end of the hints list file, use CTRL 1
- To go back to the start of the hints file, just press CTRL 7

From those tricks, the user can get all the hints desired to make the work easier while using the calculator (Loe, 2018). This is why the handheld is very important, along with the touchpad in the device. If the user doesn't know how to use the two, then it would be hard to use the calculator.

Using The Scratchpad

It is a feature of the handheld, as discussed earlier, that helps in mathematical expressions and graphical functions.

One should press the menu so that one can view the scratchpad calculate/ graph menu. All are under the geometry applications, as discussed earlier.

To close the scratchpad, one just clicks ESC, and it is done. Everything is simplified and designed similarly to other devices people, hence making the calculator such a friendly one.

Calculations

Using the scratchpad, one enters a mathematical expression at the entry line and then clicks enter to give the solution to the equation (Klecker, 2015). The answer is always displayed according to standard mathematical notation as the user inputs.

After each answer, the results are saved in the scratchpad history, which is displayed above the entry line. The results format can also be customized by the user. The results may be set to be in one decimal place and such settings.

To Insert Items Into The Catalog

The user can enter functions, units, and commands in the catalogue into the entry line. To do that:

Open the catalogue, which will list all the controls and functions from A to Z.

If the user finds the function, next, he/she will select it by pressing enter to insert it into the equation.

If the functions are not visible to the user, then press a letter of the function to go to the direct location where the function is. The letters used are the first letter of the function to be used.

Templates

The use of these templates helps the user enter the system of equations, derivatives, matrices, products, piecewise functions, and more mathematical expressions.

The best way of inserting these expressions other than using the manual method is using a wizard. The wizard has boxes that help the user enter the required arguments in an expression.

Viewing The History

As indicated earlier, every mathematical expression and its result becomes part of the scratchpad history by default. It is always displayed at the top of the entry line.

The user should press the up or down buttons so that he/she can go through the history.

Copy The History To The Entry Line

1. There is a method in this device that allows one to copy the history data back to the entry line.
2. One should first go through the data using the up and down keys and choose the data to be copied.
3. Another option is to select part of the data, like the results, by using SHIFT and the arrows.
4. Lastly, click enter to copy the data and then insert it into the entry line, and it is done.

Clear History

When history has cleared all variables and functions to adapt to the current value at that time. There is a method to undo, though, by the undo feature. To erase the memory, one should go to the actions menu and select Clear History.

Edit Expressions From The Scratchpad

Results from the history cannot be edited, but one can use a trick by copying the data into the entry line and editing the expression from there. To select the expression, just use arrows to start the place to copy, and the other indicator is either left or right. Then select enter to copy and then copy it to the entry line. It is that simple.

Graphs Calculations With Scratchpad

From the scratchpad graph page, the user should click the expand button in the entry line and then type the expression to start the graphical calculations. The process is:

- The user should choose the graph type from the menu and select it. For example, to graph a function, a user clicks the menu, and three, then 1. After selecting, the entry line changes so that it can display the graph type specified by the user.
- Then, the user should type an expression together with other parameters to complete the graph.
- Then press enter to graph the written function or press the down key arrow to add another feature. The viewing area can also be customized using the menu button.
- After graphing, the user can use the menu key to navigate and analyze the graphed function by assigning a given variable or tracing it and also locating points of interest.

Function Table Display

The table of values can be displayed by pressing menus 2 and 5.

The same table can be hidden by first clicking on the graph and then pressing menu two, then 5.

Changing Axes Appearance

Working with graphs, the axes known as Cartesian are shown by default but can be customized by the user according to her/his preferences. The process is:

- The user presses menu and four and selects the tool to zoom.
- Then, choose the axes and press CTRL, menu, and 3 to activate the attribute tool.
- Axes scale adjustment plus tic mark spacing to be manual.
- Double-click the end values of the axis to change them and type new values.
- Axes location adjustments
- Press menus 4 and 1 to change the axes' scales
- Press menus 2 and 1 to hide or display axes.

Point Of Interest

The user can use the tools to analyze the graph menu so that one can find the point of interest in a particular graphed function. One can use the tool to find the minimum, zero, or maximum derivative, point of intersection, and inflexion.

Working With Documents

All the work done in this calculator is saved in the documents and can be shared with other handheld users, plus those using similar software. There are some divisions, though. Each document is divided into one to 30 problems, which are also separated into one to fifty pages and are also shared to a maximum of four work areas.

Working With Applications

It involves the creation of a new document and application selection. A new page and an application can also be added to open the document. Multiple applications are also added to a report page.

In conclusion, the TI-Nspire CX Graphing calculator is the best when it comes to all kinds of mathematical expressions and graphical functions. The interface is an excellent, extended-span battery with a problem only in programming areas. Any sector can make use of the calculator, but most likely, it can be used best in areas of data collection statistics. Would recommend this kind of calculator to students who deal with complex graphs and calculations.

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