

Texas Instruments N3CAS/GC/2L1

Texas Instruments Nspire CX CAS Graphing Calculator User Manual

Model: N3CAS/GC/2L1

1. INTRODUCTION

This manual provides comprehensive instructions for the Texas Instruments Nspire CX CAS Graphing Calculator. Designed for advanced mathematics and science, this calculator features a full-color, backlit display and a Computer Algebra System (CAS) for symbolic calculations. It supports various subjects including Pre-Algebra, Algebra 1 & 2, Trigonometry, Geometry, Pre-calculus, Statistics, Business & Finance, Biology, Physics, Chemistry, Calculus, AP Statistics, AP Physics, AP Calculus, and Linear Algebra.

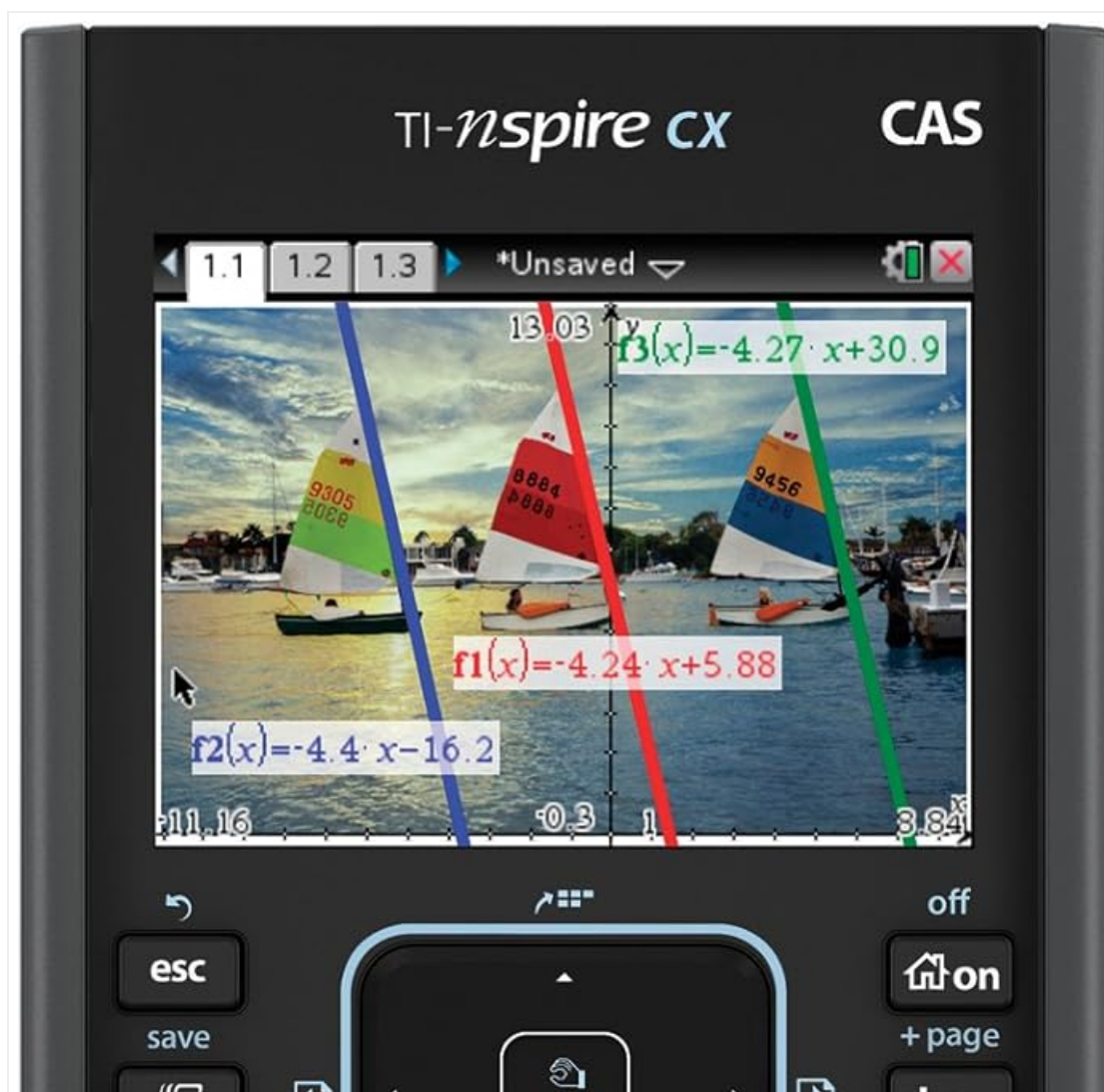




Figure 1.1: Front view of the Texas Instruments Nspire CX CAS Graphing Calculator. This image displays the calculator's full-color screen, QWERTY keyboard, and navigation pad, highlighting its sleek design and key layout.

2. SETUP

2.1. Battery Installation and Charging

The TI-Nspire CX CAS calculator comes with a pre-installed rechargeable Lithium Metal battery. Before initial use, ensure the battery is fully charged.

1. Connect the calculator to a power source using the provided USB cable and AC adapter.
2. The charging indicator light will illuminate. A full charge typically takes several hours.
3. The battery is designed to last up to two weeks of normal use on a single charge.

2.2. Initial Power On

To power on the calculator, press the **ON** button located on the upper right side of the keypad. The calculator will display the home screen or the last active document.

3. OPERATING INSTRUCTIONS

3.1. Navigation and Input

The calculator features a central touchpad for cursor navigation and selection. Use the arrow keys around the touchpad to move the cursor. Press the center of the touchpad to select items.

- **Keyboard:** Input numbers, letters, and symbols using the QWERTY keyboard and numeric keypad.
- **Ctrl Key:** Press **ctrl** followed by another key to access its secondary function (indicated above the key).
- **Menu Key:** Press **menu** to access context-sensitive options for the current application.
- **Doc Key:** Press **doc** to manage documents, including creating new ones, opening existing ones, and saving.

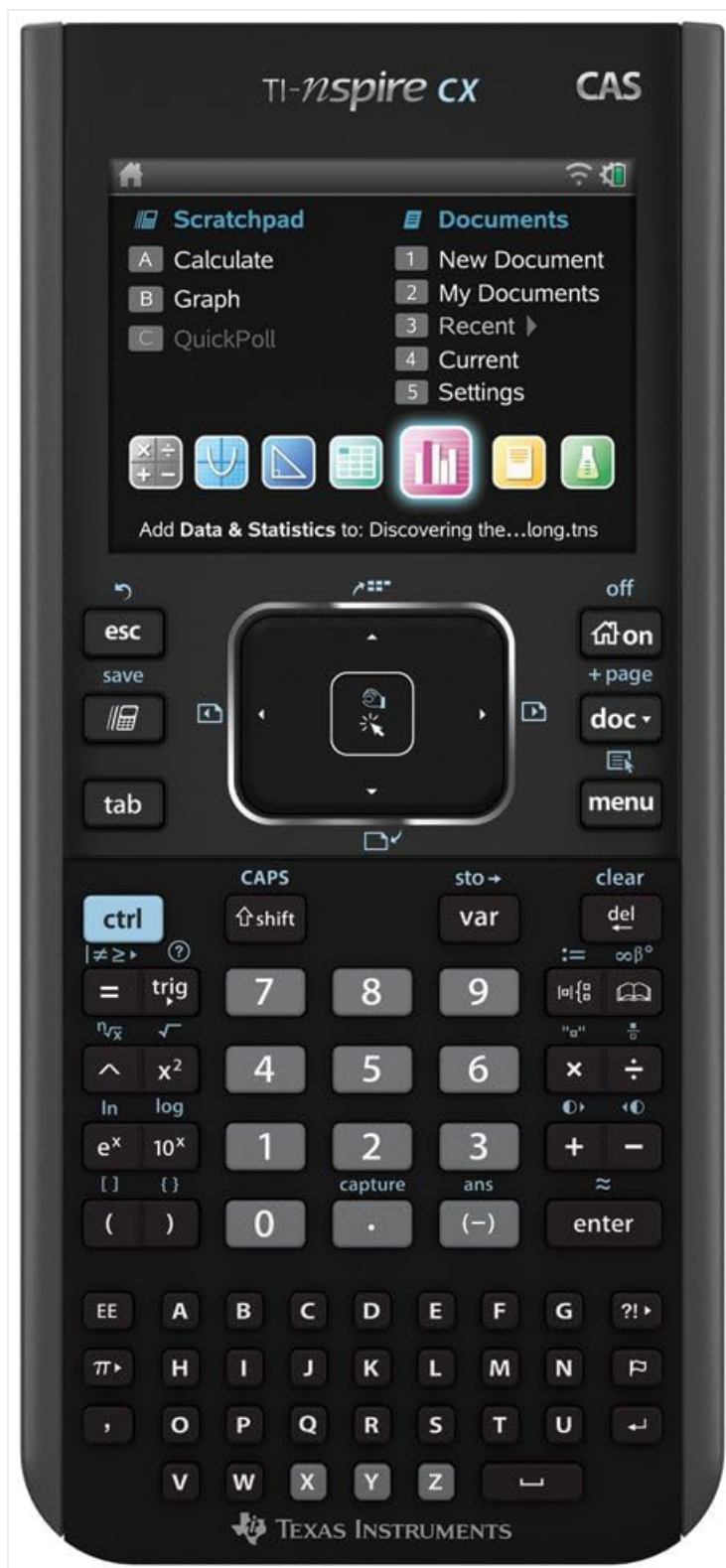


Figure 3.1: The home screen of the TI-Nspire CX CAS calculator, showing options for Scratchpad (Calculate, Graph) and Documents (New Document, My Documents, Recent, Current, Settings). This interface allows users to quickly start new tasks or manage existing files.

3.2. Using the Computer Algebra System (CAS)

The integrated CAS allows for symbolic algebra and calculus operations. This means you can perform calculations with variables, radicals, and pi, receiving exact values rather than decimal approximations.

- **Symbolic Calculations:** Enter expressions like $x^2 + 2x + 1$ and use CAS functions to factor, expand, or solve for x .
- **Exact Values:** Calculations involving $\sqrt{2}$ or π will retain their symbolic form unless a decimal approximation is specifically requested.

3.3. Graphing Functions

The full-color display enhances the visualization of graphs, allowing for color-coding of equations, objects, points, and lines.

1. From the home screen, select **Graph** or add a Graphs application to a document.
2. Enter your function(s) in the entry line.
3. Use the touchpad to navigate the graph, zoom in/out, and analyze points of interest.
4. **3D Graphing:** The calculator supports graphing and rotating 3D functions. Access this feature through the menu in the Graphs application. You can change wire or surface colors for better visualization.

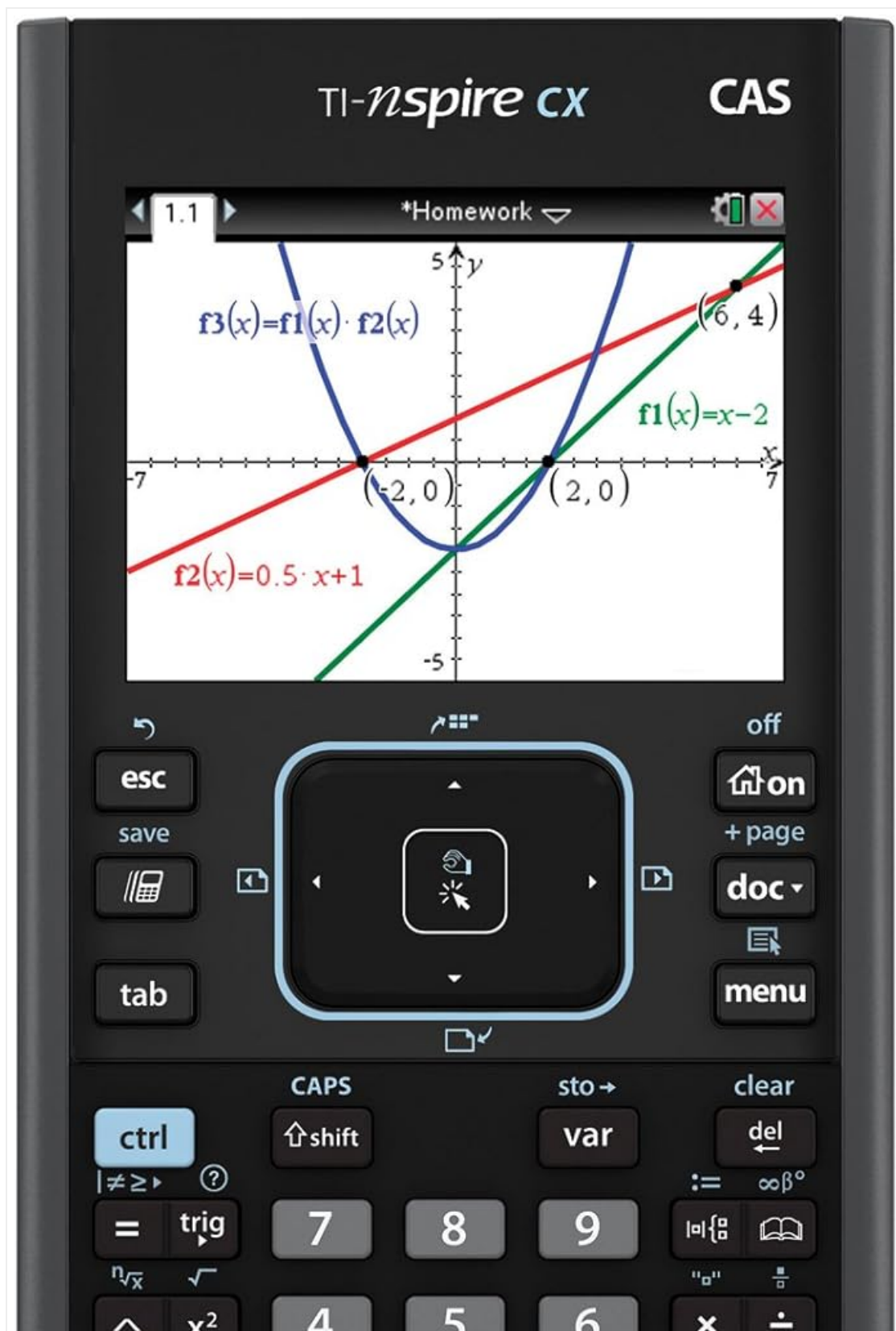




Figure 3.2: The TI-Nspire CX CAS calculator displaying multiple color-coded functions on its screen. This image illustrates the calculator's ability to visualize complex mathematical relationships with clarity, showing two parabolas and a linear function intersecting.





Figure 3.3: The TI-Nspire CX CAS calculator demonstrating the real-world image overlay feature. This image shows mathematical functions graphed directly over a photograph of sailboats, illustrating how the calculator can connect abstract concepts to tangible scenarios.

3.4. Data Transfer and Software

The TI-Nspire CX CAS handheld can transfer class assignments and documents to a computer using the student software. This allows for continued work outside of the calculator, on a desktop or laptop.

- **Student Software:** Install the accompanying student software on your computer.
- **USB Connection:** Connect the calculator to your computer via the USB cable.
- **File Management:** Use the software to transfer documents, update the calculator's operating system, and manage files.

4. KEY FEATURES

- **Full-Color Backlit Display:** Enhances visibility and allows for color-coding of equations and graphs.
- **Computer Algebra System (CAS):** Performs symbolic algebra and calculus, providing exact values.
- **3D Graphing:** Visualize and rotate 3D functions with customizable wire or surface colors.

- **Real-World Images:** Overlay mathematical concepts on digital images or personal photos for practical connections.
- **Rechargeable Battery:** Long-lasting battery, eliminating the need for alkaline replacements.
- **Student Software Compatibility:** Seamless transfer of assignments between handheld and computer.
- **Interactive Zoom:** Eleven interactive zoom features for detailed graph analysis.

5. MAINTENANCE

5.1. Cleaning

To clean the calculator, use a soft, dry cloth. For stubborn marks, slightly dampen the cloth with water. Avoid using harsh chemicals, abrasive cleaners, or solvents, as these can damage the display and casing.

5.2. Battery Care

- Charge the battery regularly to maintain its lifespan.
- Avoid fully discharging the battery frequently.
- Store the calculator in a cool, dry place when not in use for extended periods.

6. TROUBLESHOOTING

6.1. Calculator Not Turning On

- Ensure the battery is charged. Connect the calculator to a power source and allow it to charge for at least 30 minutes before attempting to turn it on.
- Perform a soft reset by pressing and holding the **ON** button for approximately 10 seconds.

6.2. Display Issues

- If the screen is dim, adjust the brightness settings through the calculator's system menu.
- If the display is frozen, perform a soft reset as described above.

6.3. Connectivity Problems (USB)

- Ensure the USB cable is securely connected to both the calculator and the computer.
- Verify that the TI-Nspire Student Software is correctly installed and updated on your computer.
- Try a different USB port on your computer.

7. SPECIFICATIONS

Feature	Detail
Brand	Texas Instruments
Model Number	N3CAS/GC/2L1
Item Weight	9.1 ounces
Product Dimensions	7.28 x 3.15 x 0.04 inches
Batteries	1 Lithium Metal battery (included)

Color	Black
Material Type	Plastic
Screen Size	3.5 Inches
Power Source	Battery Powered
Calculator Type	Business, Graphing



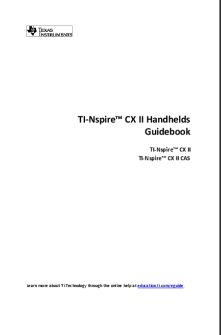
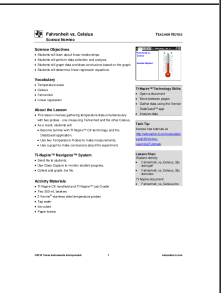
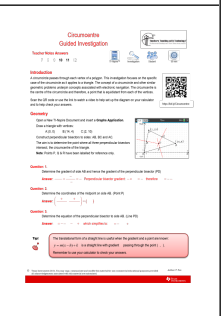
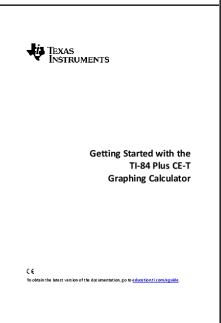
Figure 7.1: The TI-Nspire CX CAS calculator held in a hand, illustrating its physical dimensions. The image shows the calculator is approximately 8.0 inches (20 cm) in length, providing a visual reference for its size.

8. WARRANTY AND SUPPORT

For detailed warranty information and technical support, please refer to the official Texas Instruments website or contact their customer service. Keep your purchase receipt as proof of purchase for warranty claims.

Official Texas Instruments Support: education.ti.com/en/support

Related Documents

 <p>TI-Nspire™ CX II Handhelds Guidebook</p> <p>TI-Nspire™ CX II TI-Nspire™ CX II CAS</p>	<p>TI-Nspire CX II Handhelds Guidebook: User Manual</p> <p>Comprehensive guidebook for Texas Instruments TI-Nspire CX II and TI-Nspire CX II CAS handheld graphing calculators, covering setup, usage, features, and troubleshooting.</p>
 <p>Fahrenheit vs. Celsius Science Lesson Plan</p>	<p>Fahrenheit vs. Celsius: A TI-Nspire Science Lesson Plan</p> <p>Teacher notes and instructions for a Science Nspired lesson using TI-Nspire technology to explore the relationship between Fahrenheit and Celsius temperature scales through data collection and analysis.</p>
 <p>Circumcentre Guided Investigation</p>	<p>Circumcentre Guided Investigation: Mathematics Activity for TI-Nspire</p> <p>A step-by-step guided investigation for students using TI-Nspire calculators to explore the concept of the circumcentre of a triangle, including gradient calculations, midpoint formulas, and equation of lines. This activity helps understand geometric properties and their application in navigation.</p>
 <p>Getting Started with the TI-84 Plus CE-T Graphing Calculator</p>	<p>Getting Started with the TI-84 Plus CE-T Graphing Calculator</p> <p>This user guide for the Texas Instruments TI-84 Plus CE-T graphing calculator provides instructions on setup, keyboard functions, mode settings, evaluating expressions, working with graphs, managing files, using applications, and troubleshooting.</p>