

# TI-83 Plus Solve It!

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# What Is the Solve It! Application?

Solve It! is a Handheld Software Application (App) for the TI-83 Plus that provides challenging practice with algebra problems at a variety of different skill levels. Solve It! is designed to improve students' mental math abilities by having them identify missing elements in algebraic equations based on given information.

Solve It! provides three levels of difficulty: Bronze (least difficult), Silver (medium difficulty), and Gold (most difficult).

Solve It! gives encouraging, positive feedback on each problem and at the end of each ten-problem session. After you complete ten problems, Solve It! scores the percentage answered correctly.

The Solve It! App is a concept application that TI wants to share with our customers, educators, and students before the product definition and testing are complete. It is an alpha software version, and as such, it may contain imperfections, or the coding may be incomplete.

TI invites your feedback concerning the functionality and educational value of the Solve It! App. Please send your comments and questions to [concept@list.ti.com](mailto:concept@list.ti.com).

# What You Need

## Note

In this guidebook, any information that pertains to the TI-83 Plus also pertains to the TI-83 Plus Silver Edition, unless otherwise noted.

Hardware and software	Notes
TI-83 Plus or TI-83 Plus Silver Edition with version 1.14 or higher of the operating system software	You can download a free copy of the latest operating system software from <a href="http://education.ti.com/softwareupdates">education.ti.com/softwareupdates</a> . Follow the link to Operating Systems.
Computer with Microsoft® Windows® 95/98/2000, Windows NT®, or Apple® Mac® OS 7.1 or higher installed	
TI-GRAPH LINK™ computer-to-calculator cable	If you do not have this cable, call your distributor, or order the cable from TI's <a href="#">online store</a> .
TI-GRAPH LINK software that is compatible with the TI-83 Plus —or— TI™ Connect software, which works with all supported models of Flash-based TI graphing calculators.	You can download free copies of TI-GRAPH LINK and TI Connect software from <a href="http://education.ti.com/softwareupdates">education.ti.com/softwareupdates</a> . Follow the link to Connectivity Software.

## Where to Find Installation Instructions

Detailed instructions on installing this and other Apps are available at [education.ti.com/guides](https://education.ti.com/guides). Follow the link to Flash installation instructions.

### Note

The instructions in this guidebook are only for this App. If you need help using the TI-83 Plus, refer to its comprehensive guidebook at [education.ti.com/guides](https://education.ti.com/guides).

# Starting and Quitting the Application

## Starting the Application

1. Press **APPS** to display the list of Apps on your calculator.
2. Select **SolveIt**. The information screen is displayed.
3. Press any key to continue. The programmer's screen is displayed.
4. Press any key to continue. The SELECT A LEVEL menu is displayed.



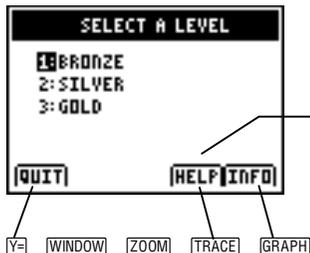
## Quitting the Application

To quit the App, you must display the SELECT A LEVEL menu.

1. If you are on a problem screen, select **BACK** by pressing the  $\boxed{Y=}$  key, or press  $\boxed{2\text{nd}}$  [QUIT].
2. From the SELECT A LEVEL menu, select **QUIT** by pressing the  $\boxed{Y=}$  key, or press  $\boxed{2\text{nd}}$  [QUIT].

# Navigating

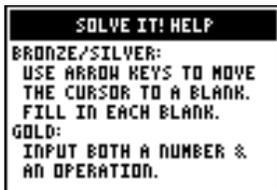
- To move the cursor to a blank space in the table, use the arrow keys (▲, ▼, ◀, and ▶).
- To enter an element (either a number or an operation), input the element and press **ENTER**.
- To select an option defined at the bottom of the screen (such as **BACK** associated with the **Y=** key), press the graphing key directly below the option.



Press a graphing key to select one of these options. For example, press **TRACE** to select **HELP**.

# Getting Help

From the SELECT A LEVEL menu, select **HELP** by pressing the **TRACE** key.



*Help screen*

To return to the SELECT A LEVEL menu, press any key.

TI invites your feedback concerning the functionality and educational value of the Solve It! App. Please send your comments and questions to [concept@list.ti.com](mailto:concept@list.ti.com).

# Using the Application

From the SELECT A LEVEL menu, select the Bronze, Silver, or Gold level.



At the Bronze level, you must calculate two different values and enter these missing values into the table. At the Silver level, you must calculate one value and enter this missing value into the table. At the Gold level, you must determine a number and an operation to enter in order to make the sentence true.

When a problem appears, it takes a few seconds to “materialize” on the screen. If you don’t want to wait, press any key.

## Notes

- To backspace over the last digit you entered, press the **DEL** key. To clear the entire entry, press the **CLEAR** key.
- Only integer values may be entered; the decimal point is not accepted.

- The standard order of operations applies to all algebraic equations.
- Each value from the table is substituted for the appropriate variable in the equation. For example, if the equation is  $B = A^2 + 7$  and if  $A = -5$ , then the substitution is made as  $B = (-5)^2 + 7$ . Therefore,  $B = 32$ .
- When you finish a set of 10 problems, the results are shown.

LEVEL COMPLETE	
FINAL SCORES:	
NUMBER CORRECT:	17
NUMBER INCORRECT:	3
NUMBER OF POINTS:	170
PERCENTAGE CORRECT:	85%
WELL DONE!	
PRESS ANY KEY	

## Bronze Level

A typical problem at the Bronze level looks like this:

				0
$-7 * X - 1 = Y$				
X	-1	6	5	
Y	6	-43		41
[BACK]				

*Bronze level screen*

Solve It! generates equations with two variables. The table below the equations provides some of the possible values for the variables, which are clues to help find the missing values. Each column in the table provides values that satisfy the equation.

You must fill in the missing values. An empty cell in the table is highlighted.

1. Press the number keys to input a number. To enter a negative number, press  $\boxed{-}$  and then the number keys.
2. Press  $\boxed{\text{ENTER}}$  to enter the number.

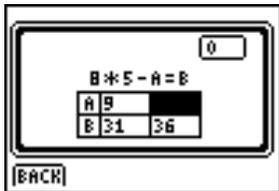
Solve It! displays a message to tell you whether your solution is correct or incorrect. If the answer is incorrect, the correct answer is shown in parentheses.

3. Press any key to proceed. The cursor moves to the next empty cell in the table.

Each correct answer earns 10 points. The box at the top right of the screen shows your cumulative score.

## Silver Level

The Silver level is like the Bronze level, except that there are only two columns of elements in the table. You must calculate one number to complete the table.



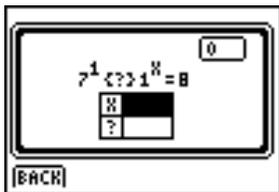
*Silver level screen*

The format of the problems is a bit more difficult than the Bronze level, and there is only one hint. Exponents may be missing from the equations.

## Gold Level

At the Gold level, you must determine a number and an operation to enter in order to make the sentence true. One of the missing elements may be an exponent. More than one answer may be correct.

The missing +, −, or \* operation is represented by a question mark within braces {?}. Solve It! does not generate equations where a root or division operation is missing.



*Gold level screen*

No hints are provided in additional columns as in the Bronze and Silver levels. At the Gold level, Solve It! does not give feedback until both missing elements are entered.

The empty cell in the table is highlighted. You can enter the elements in any order.

1. Depending on the missing element, input an integer or an operation.
2. Press  $\uparrow$  or  $\downarrow$  to move the cursor to the next empty cell in the table.
3. Press **ENTER** to submit your answers for the missing elements.

Solve It! displays a message to tell you whether your solution is correct or incorrect. If the answer is incorrect, the correct answers are shown in parentheses.

# Deleting the Application from Your Calculator

1. Press **[2nd]** **[MEM]** to display the MEMORY menu.
2. Select **Mem Mgmt/Del**.
3. Select **Apps**.
4. Move the cursor to **SolveIt**.
5. Press **[DEL]**. A confirmation message is displayed.
6. Select **Yes** to delete the application.

# Installation Error Messages

## Low Battery

Do not attempt to download a Flash application if the low-battery message appears on the home screen. Low battery indication is shown on the initial screen. If you receive this error during an installation, change the batteries before trying again.

## Invalid Signature or Certificate

Either this calculator does not have a certificate to run the application, or electrical interference caused a link to fail. Try to install the application again.

## Error in Xmit

This problem is usually associated with the unit-to-unit cable and its connection between the calculators. Make sure the cable is firmly inserted in the link port of each calculator.

## Link Transmission Error

This error indicates that the TI™ Connect or TI-GRAPH LINK™ software is unable to communicate with the calculator. The problem is usually associated with the TI-GRAPH LINK cable and its connection to the calculator or to the computer.

- Make sure the cable is firmly inserted in the calculator's link port and the computer's serial or USB port.
- Verify that the correct cable type is selected in the software link settings.
- Verify that the correct communications port (Com Port) is selected in the software link settings. (This step does not apply if you are using the USB port and TI Connect software.)

## Archive Full

This error occurs when the TI-83 Plus does not have sufficient memory for the application. In order to make room for another application, you must delete an application or archived variables from the TI-83 Plus. Before you delete an application from the TI-83 Plus, you can save it on your computer using TI™ Connect or TI-GRAPH LINK™ software for the TI-83 Plus. You can reload it to the TI-83 Plus later using the TI-GRAPH LINK or TI Connect software.

## Other Errors

See pages B-6 through B-10 in the [TI-83 Plus Graphing Calculator Guidebook](#) for information about the specific error.

# Checking Version Numbers and Free Space

## Verify Operating System Version and ID Number

The Solve It! App is compatible with the TI-83 Plus operating system 1.14 and higher.

To verify your operating system version number:

1. From the home screen, press **2nd** [MEM].
2. Select **ABOUT**.

The operating system version number is displayed below the product name and has the format x.yy. The ID number appears on the line below the product number.

## Verify Flash Application Version

The version number appears on the information screen below the application name. To display the information screen, do one of the following:

- Press **[APPS]**, and then select **SolveIt**.

—or—

- Select **INFO** from the application's main menu.

## Check Amount of Flash Application Free Space

1. From the home screen, press **[2nd]** **[MEM]**.
2. Select **Mem Mgmt/Del**.

The Solve It! App requires at least 16,384 bytes of **ARC FREE** (Flash), or one space, to load the application.

For more information about memory and memory management, refer to the [TI-83 Plus Graphing Calculator Guidebook](#).

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