

TroubleShooting the TI-89

□ CALCULATOR BATTERIES

- *Will I lose all my programs when I change batteries?*

There is no guarantee that changing batteries will not reset your calculator's memory. However, a method that seems to work well is to make sure your calculator is turned off, take the old batteries out one at a time, replacing each with a new battery before removing the next. Be sure you have the direction of the batteries correct (+ and – alternating).

- *What is the backup battery?*

The backup battery is a round battery above the AAA batteries and under a piece of plastic that is fastened to the calculator with a small screw.

- *How long will my batteries last?*

How long your batteries last depends on how much you use your calculator. The four AAA batteries in the calculator usually last for about a year with normal use in a calculus course. The backup battery can last anywhere from 2 to 5 years.

- *When do I need to replace the batteries?*

You need to replace the AAA batteries if your screen is not dark enough when you press **green diamond**, release that key, and then press and hold the + key. (See the second bulleted item under the *General* category.) There is also a battery indicator in the lower-right hand corner of the home screen that appears when your batteries need replacing.

- *I've replaced the four AAA batteries and my calculator still won't come on. What next?*

Sometimes when you replace batteries, the calculator resets to its lightest screen setting. Darken the display according to the directions given in the second bulleted item under the *General* category. If you have replaced the AAA batteries, you have darkened the display, and your calculator still will not turn on, it is likely that the backup battery needs replacing.

□ DELETING PROGRAMS OR OTHER INFORMATION FROM THE TI-89

- *How do I delete information from my calculator?*

Press **2nd + [MEM] 2 [Delete]**. Next press the number corresponding to what you wish to delete. For instance, to delete a program, press **7 [Prgm]**. Use the down arrow to move the cursor next to the information you want to delete and press **ENTER**. *Be very careful – there is no “undo” command.*

- *The calculator keeps giving me a memory error when I try to enter data or transfer or run a program. What can I do?*

Press **2nd 6 [MEM]**. If you have approximately 8000 or less in the RAM FREE location, you need to delete some of the calculator's contents. Pictures (PIC) and graph data bases (GDB) take up a lot of room and can be deleted by following the directions in the answer directly above. Game programs also take up a lot of room and create some of the pictures and data bases that may be stored in your calculator.

- *I'm trying to delete data in one of the cells of the data/matrix editor and nothing happens.*

If the data entry does not delete when it is highlighted and you press **back arrow**, the data may be locked. If you entered the data using the sequence command and/or aligned or shifted the data by adding/ subtracting/multiplying, and so forth, there is a picture of a lock next to the row and column number of the entry at the bottom of the data editor screen. When the data is locked this

way, you cannot change individual entries. However, you can delete the entire column with **2nd F1 [F6: Util] 5 [Clear Column]**.

□ GENERAL INFORMATION

- *Why do my calculator screens not look like the ones in this Guide?*

Make sure your calculator settings are as specified in the *Setup Instructions* on pages TI89-1,2.

- *How do I make the display screen darker or lighter?*

To make the display darker, press **green diamond**, release that key, and then press and hold the + key until the display is dark enough. To make the display lighter, press **green diamond**, release that key, and then press and hold the – key until the display is light enough.

- *I have either lost or never got the owner's manual for the TI-89. What can I do?*

The *TI-89 Guidebook* is available at the TI web site accessible through **www.ti.com**.

- *I get tired of pressing so many keys to have to find commands that I use all the time. Is there something I can do to make the process simpler?*

Yes, the TI-89 has a CUSTOM menu in which you can enter commands that you often. See pages 30 and 291 in the *TI-89 Guidebook* for instructions.

- *Is there a difference in lower-and upper-case letters on the TI-89?*

You can type both upper and lower-case letters on the TI-89, but the calculator makes no distinction in the case. For instance, P and p are the same variable names on this calculator. Also, the TI-89 considers pt as the name of a variable, but $p*t$ means the multiplication of P and T . In addition, the calculator assumes that you are trying to evaluate a function p at the input t when you type $p(t)$, so do not use this symbol to mean multiplication of p and t .

□ GRAPHING

- *Why do I get an ARGUMENT ERROR when I try to enter a function from the graphing list in the entry line on the home screen?*

Make sure that you refer to the function by the correct number and that there is something entered in that position in the Y= (graphing) list. The TI-89 also requires that you use output function notation when referring to the function on the home screen; *i.e.*, use $y1(x)$ not $y1$.

- *Why don't I see a graph when I press the correct keys?*

Make sure that you have the function entered in the graphing (Y=) list, using x for the input variable. (See Sections 1.1.1 – 1.1.2.) Also check that your function is turned on. (See Section 1.3.5.) If the function is turned on but you still cannot see the graph, check your window settings – maybe the function did graph, but it graphed outside your window.

- *What do I do if I get a strange-looking graph or no graph instead of a scatter plot of data when I press F2 [ZOOM] 9 [ZoomData]?*

The scatter plot setup has somehow been changed, is not correctly set, or is not turned on. Refer to Section 1.5.5 of this *Guide* for instructions.

- *Do I have to clear the function location in the Y= list before pasting in another function when finding an equation of best fit?*

Most of the time, it is not necessary to first clear any previously-entered function from the chosen location of the Y= list. However, if you receive an error message when finding the equation, clear

the desired function location and return to the data/matrix editor to repeat the regression instruction. If you still obtain an error message, check the graph format as described on page 1 of this *Guide*.

- *While trying to draw the graph of an equation that I entered in the Y= list, I get a DIMENSION MISMATCH error. What do I do?*

The TI-89 will sometimes not draw the graph of a function when one of the scatter plots is turned on. To correct this problem, press **ESC green diamond Y=**, put the cursor on any plots that are checked, and press **F4 [✓]** to turn the plots off. The graph should now draw.

- *What causes an error message about the window and how do I eliminate this error?*

This error message is usually caused when $Y_{min} = Y_{max}$ in the WINDOW settings. The code in a program may be such that the height of the window ($Y_{min} - Y_{max}$) is set to zero. If you attempt to draw a scatter plot when the output is constant, this error results because the TI-89 uses the output data to set the range for the WINDOW. To correct this error, manually set Y_{min} and Y_{max} and press **green diamond GRAPH** to draw the graph.

- *The data that is graphed is not the correct data. What happened?*

Make sure that you have the correct folder and the correct data in the data/matrix editor. All instructions in this Guide are to enter data in the variable **calcc** in the **Main** folder. Go to the **Y=** screen and be sure that the plot that is turned on is defined using **c1** and **c2** in the **Main** folder.

□ PROGRAMS

- *Where can I get the programs that are used in this Guide?*

The programs can be transferred to your calculator from another student or your teacher's calculator and a link chord. If no one has the programs, they can be downloaded from the web site for this text accessible through **college.hmco.com**.

A TI Graph-Link™ cable and the linking software for your particular calculator are needed to transfer the programs from the Internet to a computer. A special cable is needed to transfer the programs from the computer to your calculator. The linking software is free at the TI web site accessible through **www.ti.com** and at the web site for this text. If you cannot find a cable, ask at the learning center for your school, check with your instructor, or search the TI web site for instructions on how to purchase one.

- *Why won't a program run, or why do I get an error when I try to run a program?*

You may have unknowingly deleted or altered one or more lines of the program code. The easiest method of fixing the problem is to use the link chord to re-transfer the entire program into the calculator. If this is not possible, you can find the correct program code in the *TI-89 Program Appendix* at the *Calculus Concepts* Website. Press **APPS 7 [Program Editor] 2 [Open] down arrow** twice and then **right arrow**. Highlight the name of the corrupt program and press **ENTER**. Compare the code in your calculator with what is printed in the *TI-89 Program Appendix* until you find the error and correct it by retyping the correct code. Consult the *TI-89 Guidebook* that came with your calculator for the location of the symbols in the program code.

- *Program NUMTGL keeps giving an error when I try to run it. What can I do?*

Delete all functions from the Y= list (except the function in y1) before using the program named NUMTGL. This program uses many different memory locations in the calculator. If you receive an error while running this program, you may have a picture, another program, or something else stored as a single-letter name. For instance, if program NUMTGL is trying to store a number in memory location T and you have a program called T, the calculator stops and may give an error message. Delete or rename any programs, pictures, or whatever you have called by a single-letter

name before continuing. (See DELETING PROGRAMS OR OTHER INFORMATION FROM THE TI-89.)

□ SYMBOLIC

- *I get a number instead of a symbolic expression. What is wrong?*

If you do not get a symbolic result, it is because the variable you are using as the input variable has a number stored in it. That is, the variable is a *defined* rather than an *undefined* variable. The variable you use for the input variable must be an undefined variable in order to obtain a symbolic result. Refer to the top of page TI89-5 of this *Guide* for more information.

- *Why is the symbolic result not correct when I am using several letters in the problem?*

One reason may be that the TI-89 thinks one of the variables is a function. For instance, if you have defined c as a function and in another problem want c to be a variable coefficient, you must indicate this when typing the expression: If you do not type $c*(x + 5)$, the TI-89 assumes that you are evaluating the function c at the input value $x + 5$ when you type $c(x + 5)$.