

Chapter 1

Coping with the Basics

In This Chapter

- ▶ Turning the calculator on and off
 - ▶ Using the keyboard
 - ▶ Using the menus
 - ▶ Setting the mode of the calculator
 - ▶ Using the CATALOG
-

TI-89 graphing calculators are loaded with many useful features. With them, you can graph and investigate functions, parametric equations, polar equations, and sequences. You can also produce 3D graphs, contour maps, slope fields, and direction fields. These calculators can even factor expressions and solve systems of equations. And if that's not enough to keep you busy, a TI-89 can integrate, differentiate, evaluate limits, solve differential equations, analyze statistical data, and manipulate matrices. You can even turn this calculator into an e-book reader!

But if you've never used a graphing calculator before, you might at first find it a bit intimidating. After all, it contains several dozen menus, some of which contain three or four submenus. But getting used to working with the calculator really isn't hard. After you get familiar with what the calculator is capable of doing, finding the menu that houses the command you need is quite easy. And you have this book to help you along the way.

When to Change the Batteries

The convenience of battery power has a traditional downside: What if the batteries run out of juice at a crucial moment, such as during a final exam? Fortunately, the calculator gives you some leeway. When your batteries are low, you see the BATT warning message displayed to the right of the last line of the screen. After you see this message for the first time, the calculator should, according to the manufacturer, continue to function just fine for at least one week. When the batteries are so low that you might not make it

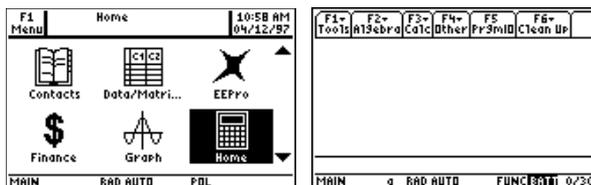
through that final exam, the calculator highlights the BATT warning message, as illustrated in the second picture in Figure 1-1. One exception exists: If you attempt to transfer data or an application from a PC or another calculator to a calculator that has low batteries, the calculator with the low batteries displays a warning message telling you to change the batteries and refuses to make the transfer. (Part VIII explains how to transfer data and applications.)

Because you've likely put batteries into countless toys, you should have no trouble opening the cover on the back of the calculator and popping in four AAA batteries. Above the AAA battery chamber is a panel that opens to the compartment containing the backup battery. The lid of the panel indicates the type of battery housed in the compartment. The manufacturer recommends that you replace this battery every three or four years. So mark your calendar!

Turning the Calculator On and Off

Press **ON** to turn the calculator on. (The **ON** key is the last key in the left column of keys on the keyboard.) The first time you turn on the TI-89 Titanium, you see the application screen, as shown in the first picture in Figure 1-1. On the TI-89, you see the Home screen, as in the second picture in this figure.

Figure 1-1:
The TI-89 Titanium Application screen (left) and Home screen (right).



To turn the calculator off, press **2nd** and then press **ON**. (The **2nd** key is the second key from the top in the left column of keys.) Pressing **2nd****ON** to turn off the calculator also exits any application you were using (such as the Graph application) so that when you turn the calculator back on, you're confronted with the Application screen on the TI-89 Titanium or the Home screen on the TI-89.



If you want to turn the calculator off without exiting your current application, press **▢** and then press **ON**. (The **▢** key is the third key from the top in the left column of keys.) The next time you turn the calculator on, it will be exactly as you left it.

To prolong the life of the batteries, the calculator automatically turns itself off after several minutes of inactivity. But don't worry — when you press **ON**, all your work appears on the calculator just as you left it before the calculator turned itself off.

In some types of light, the screen can be hard to see. To increase the contrast, press and hold **+** and repeatedly press **+** until you have the desired contrast. To decrease the contrast, press and hold **+** and repeatedly press **-**.

What Is the Home Screen?

The Home screen is the screen where most of the action takes place as you use the calculator — it's where you evaluate expressions and execute commands. This is also the screen you usually return to after you've completed a task such as entering a matrix in the Data/Matrix editor or graphing a function.



Press **HOME** to go to the Home screen from any other screen. If you want to clear the contents of the Home screen, press **F1****8**.

The second picture in Figure 1-1 (shown previously) displays the Home screen layout. The first line is the Toolbar, which houses all the neat commands you can use. Under that is the large space, called the history area, where the calculator displays the results of whatever it is you told the calculator to do. The second-to-last line is the command line — this is where you enter the commands telling the calculator to do something. And the last line is the status line, where the calculator tells you what it's up to. For example, the third entry (RAD) on this line in Figure 1-1 tells you that the calculator is expecting all angles to be measured in radians.

Using the Keyboard

The row of keys under the calculator screen contains the function keys you use to select the Toolbar menus at the top of the screen. The next three rows, for the most part, contain editing keys, menu keys, and Arrow keys. The Arrow keys (**←****→****↶****↷**) control the movement of the cursor. The remaining rows contain, among other things, the keys you typically find on a scientific calculator.

Using the **2nd** key

Above and to the left of most keys is a secondary key function written in the same color as the **2nd** key. To access that function, first press **2nd** and then press the key. For example, π is above the **^** key, so to use π in an expression, press **2nd** and then press **^**.

Because hunting for the entities written above the keys can be tedious, in this book I use only the actual keystrokes. For example, I make statements like, “Enter π into the calculator by pressing `[2nd][^]`.” Most other books would state, “ π is entered into the calculator by pressing `[2nd][π]`.”



When the `[2nd]` key is active and the calculator is waiting for you to press the next key, you see 2nd displayed to the left on the last line of the screen.

Using the `[♦]` key

Above and to the right of most keys on the top half of the keyboard and the last three keys in the right column is a secondary key function written in the same color as the `[♦]` key. To access that function, first press `[♦]` and then press the key. For example, θ is above the `[^]` key, so to use θ in an expression, press `[♦]` and then press `[^]`.

Hunting for the entities written above the keys can be a pain, so for this book I tell you only the actual keystrokes. For example, I make statements like, “Enter θ into the calculator by pressing `[♦][^]`.” Most other books would state, “ θ is entered into the calculator by pressing `[♦][θ]`.”



When the `[♦]` key is active and the calculator is waiting for you to press the next key, the calculator displays a diamond to the left on the last line of the screen.

Using the `[ENTER]` key

You use the `[ENTER]` key to evaluate expressions and to execute commands. After you have, for example, entered an arithmetic expression (such as $5 + 4$), press `[ENTER]` to evaluate that expression. In this context, the `[ENTER]` key functions as the equal sign. I explain entering arithmetic expressions in Chapter 2.

Using the Arrow keys

The Arrow keys (`[↑]`, `[↓]`, `[←]`, and `[→]`) control the movement of the cursor. These keys are in a circular pattern in the upper-right corner of the keyboard. As expected, `[↓]` moves the cursor to the right, `[↑]` moves it to the left, and so on. When I want you to use the Arrow keys — but not in any specific order — I refer to them all together, as in “Use `[↑][↓][←][→]` to place the cursor on the entry.” Or I simply write, “use the Arrow keys.”

Using the **ALPHA** and **↑** keys to write text

You wouldn't want to write a novel on the calculator, but you often need to write text in order to give a name to things such as the variables you define and the files you store in the calculator. You enter these names by using the **ALPHA** and **↑** keys and the letters of the alphabet appearing above and to the right of most keys on the bottom half of the keyboard. The letters *x*, *y*, *z*, and *t* have their own keys: **X****Y****Z****T**.



On the TI-89, the ALPHA key, **alpha**, is in lowercase letters.

To enter a single lowercase letter, first press **ALPHA** and then press the key corresponding to that letter; for an uppercase letter, first press **↑** and then press the key corresponding to the letter. For example, the letter *G* is above the **7** key; to enter a lowercase *g*, press **ALPHA** and then press **7**; to enter an uppercase *G*, press **↑** and then press **7**.



The calculator *is not* case sensitive. If, for example, you save a number with the name "A" and then save another number with the name "a," the calculator overwrites the number stored in "A" with the number you are saving in "a."

Because hunting for letters on the calculator can become annoying, I tell you the exact keystrokes needed to create them. For example, if I want you to enter the lowercase letter *g*, I say, "Press **ALPHA****7** to enter the letter *g*." Most other books would say "Press **ALPHA****[G]**" and leave it up to you to figure out where that letter is on the calculator.

You must press **ALPHA** before entering each letter. However, if you want to enter many letters, first press **2nd****ALPHA** to lock the calculator in Alpha mode. Then all you have to do is press the keys for the various letters. When you're finished, press **ALPHA** to take the calculator out of Alpha mode. For example, to enter Exam into the calculator, press **2nd****ALPHA****↑****÷****X****-****5** and then press **ALPHA** to tell the calculator that you're no longer entering letters. To enter more than one uppercase letter, press **↑****ALPHA**, enter the letters, and then press **ALPHA** to take the calculator out of Alpha mode.



When the calculator is in Alpha mode and is waiting for you to enter a letter, you see the letter *a* displayed to the left on the last line of the screen, as seen in the second picture in Figure 1-1. When you press **2nd****ALPHA** to lock the calculator in Alpha mode, the *a* at the bottom of the screen is highlighted. If the calculator is waiting for you to enter an uppercase letter, you see **↑** displayed. And when you press **↑****ALPHA** to enter several uppercase letters, **↑** appears at the bottom of the screen.

REMEMBER



Keys to remember

The following keystrokes are invaluable:

- ✓ **[ESC]**: This is the equivalent of the Escape key on a computer. It gets you out of whatever you're doing. For example, when you're in a menu and decide you really don't want to be in that menu, press **[ESC]** to exit the menu. Or if you have moved the cursor into the history area and want to return to the command line, press **[ESC]**.
- ✓ **[ENTER]**: This key is used to execute commands and to evaluate expressions. When evaluating expressions, it's the equivalent of the equal sign.
- ✓ **[CLEAR]**: This is the erase key. If you're entering something into the calculator and change your mind, press this key two times — once to erase the characters to the right of the cursor and a second time to erase the rest of the entry. If you want to erase an entry in the history area of the Home screen, use the Arrow keys to highlight that entry and then press **[CLEAR]**.
- ✓ **[←]**: This is equivalent to the Backspace key on a computer — it erases the character to the left of the cursor.

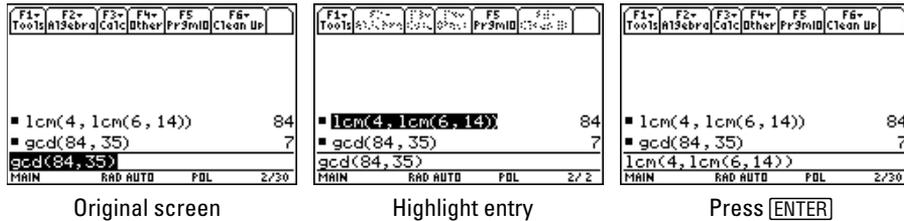
Recalling and Editing Entries

Being able to edit a current or previous entry is a real timesaver. The first picture in Figure 1-2 provides an example. The first entry in the history area found the lcm (least common multiple) of 4, 6, and 14. If you now wanted to find the lcm of 4, 6, and 35, wouldn't it be a lot easier to edit this entry by changing the 14 to a 35 than it would be to key in the whole entry from scratch? This section tells you how to do this.

Recalling an entry to the command line

You can edit an entry only when it's on the command line (the second line from the bottom of the screen). For example, in the first picture in Figure 1-2, the last entry evaluated is $\text{gcd}(84, 35)$. Because this entry remains on the command line, you can, for example, edit it to find $\text{gcd}(84, 24)$ by simply changing 35 to 24. (I explain editing later in this section.) The first line in this picture found the lcm of 4, 6, and 14. If you want to edit this entry to find, for example, the lcm of 4, 6, and 35, you would first recall the entry to the command line and then edit it. To recall an entry to the command line, repeatedly press \odot to highlight the entry you want to place on the command line, as illustrated in the second picture in Figure 1-2. Then press **[ENTER]** to place the entry on the command line, as in the third picture in Figure 1-2.

Figure 1-2:
Recalling
entries
to the
command
line.



You can use the **[⊖]** key to scroll past the top of the screen. If you want to return to the command line from the history area without placing a new entry on it, press **[ESC]**.

Editing entries on the command line

The calculator offers four ways to edit an entry on the command line:

- ✓ **Deleting the entire entry:** Press **[CLEAR]** one or two times to erase an entry on the command line. If the entry is highlighted or if the cursor is at the left of the entry, pressing **[CLEAR]** one time erases the entry; in all other situations, you need to press **[CLEAR]** twice to erase the entry.
- ✓ **Erasing part of an entry:** To erase a single character, use the **[⊙]** keys to place the cursor to the right of the character you want to erase and then press **[←]** to delete that character.
- ✓ **Inserting characters:** Because the insert mode is the default, to insert a character, just use the **[⊙]** keys to place the cursor where you want to insert the character and then key in the character.
- ✓ **Keying over existing characters:** You can press **[2nd][←]** to toggle the calculator between the Insert and Type Over modes. When the calculator is in Insert mode, the cursor appears as a vertical line placed between two characters; in Type Over mode, the cursor is a square that highlights a character. Keying in a character while in Type Over mode does exactly what you'd expect — it replaces the highlighted character with the character you key in. When you're finished keying over characters, press **[2nd][←]** to put the calculator back in Insert mode.

The *BUSY* Indicator

When the calculator is busy performing calculations, you see the **BUSY** indicator highlighted at the right of the last line of the screen.



If the calculator takes too long to graph a function, evaluate an expression, or execute a command, and you want to abort the process, press **[ON]**. When confronted with the Break error message, press **[ESC]** or **[ENTER]**.

Accessing Applications

The most often used applications, such as Home, Graph, and Table, have their own key or key combination. For example, press **[HOME]** to go to the Home screen; to go to the Graph screen, press **[◀][F3]**.

To access the other applications, press **[APPS]**. On the TI-89 Titanium, you see a screen similar to the one in the first picture in Figure 1-1; on the TI-89, you see a numbered list of applications. To select an application on the TI-89 Titanium, use the Arrow keys to highlight the desired application and then press **[ENTER]**. On the TI-89, you select an application by keying in its number or by using the **⊖** keys to highlight the application and then pressing **[ENTER]**.

There isn't enough space in this book to tell you how to use all of these applications, but I do tell you how to use Home, Graph, and Table, as well as the Data/Matrix editor. For a brief explanation of what some of the other applications can do, see Chapter 23.

Using Menus

You can find most functions and commands in the menus housed in the calculator — and just about every chapter in this book refers to them. This section is designed to give you an overview of how to find and select menu items.

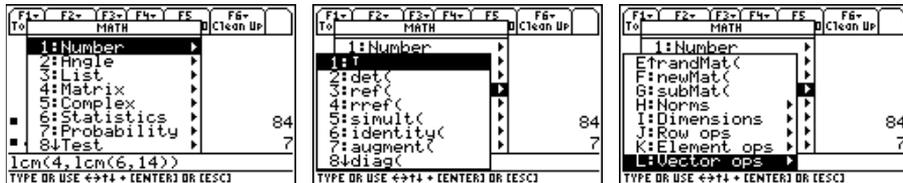
Accessing a menu

Each application has its own set of menus in the Toolbar at the top of the screen, as illustrated in the second picture in Figure 1-1 appearing earlier in this chapter. These menus are specific to the application and aren't always available in other applications. In addition to the Toolbar menus, the calculator has several menus that are always available no matter what application you're using. MATH and UNITS are examples of such menus.

Each menu, whether it be on the Toolbar or not, has its own key or key combination. For example, to access the F1 Tools menu in the Toolbar, press **[F1]**. To access the MATH menu (which you see in the first picture in Figure 1-3), press **[2nd][5]**.

An arrow appearing to the right of a menu item means that that item houses a submenu. This is illustrated in the first picture in Figure 1-3, in which each item in the menu houses a submenu. Only the last five items in the menu in the third picture in Figure 1-3 house submenus.

Figure 1-3:
The MATH
menu and
the MATH
Matrix
submenu.



Scrolling a menu

If a menu contains more items than can be displayed on the screen, a down or up arrow appears after the number or letter of the last or the first item on the screen. This is illustrated in the first two pictures in Figure 1-3, in which the down arrow to the right of the number 8 indicates that there are more items at the bottom of the menu than can fit on the screen. To see these menu items, repeatedly press \downarrow until they come into view. To get quickly to the bottom of a menu from the top of the menu, press \downarrow . The result of doing this is illustrated in the third picture of Figure 1-3, in which you now see an up arrow to the right of E, indicating that there are more items at the top of this menu than can be displayed on the screen. To quickly get from the bottom to the top of the menu screen, press \uparrow .

Selecting menu items

To select a menu item from a menu, key in the number (or letter) of the item or use \downarrow / \uparrow to highlight the item and then press ENTER .



Press ESC to exit a menu or submenu without selecting a menu item.

Setting the Mode

The Mode menu, which you access by pressing MODE , is the most important menu on the calculator — among other things, it tells the calculator how you want numbers and graphs to be displayed. The three screens (pages) that constitute Mode menu are shown in Figure 1-4. Menu items that are illegible, such as the third item in the second picture in Figure 1-4, are modes that aren't available at the current time.

many digits of a number to display of the screen. **FIX** n tells the calculator to round numbers so that n digits appear after the decimal point, and **FLOAT** n tells the calculator to round numbers so that a total of n digits appear. The **FLOAT** option varies the number of decimal places depending on the value of the number. If a number can't be displayed by using the Display Digits setting, it is displayed in scientific notation.

The default Display Digits setting is **FLOAT 6**, which is just fine for normal use. With this setting, 12.3456789 is rounded to 12.3457, a total of six digits. But if you're working with money, set this option to **FIX 2** so that all numbers are rounded to two decimal places.

- ✓ **Angle:** This setting tells the calculator the units it should use when you enter an angle. Your options are **RADIAN** and **DEGREE**. The current Angle mode of the calculator is displayed on the status line. For example, **RAD** on the last line in the first picture of Figure 1-5 (shown earlier) indicates that the calculator is set to measure all angles in radians.

If you plan to enter some angles in radians and some in degrees, set the Angle mode to **RADIAN**. When you want to enter an angle in degrees, just enter the angle and then press $\boxed{2nd}\boxed{1}$ to tell the calculator to measure that particular angle in degrees instead of radians.

If you're planning on graphing trigonometric functions, put the calculator in Radian mode. Reason: Most trig functions are graphed for $-\pi \leq x \leq \pi$. That is approximately $-6.28 \leq x \leq 6.28$. That's not a bad value for the limits on the x -axis. But if you graph in Degree mode, you would need $-360 \leq x \leq 360$ for the limits on the x -axis. This is doable . . . but trust me, it's easier to graph in **RADIAN** mode.

- ✓ **Exponential Format:** This setting controls how the calculator displays numbers. Your options are **NORMAL**, **SCIENTIFIC**, and **ENGINEERING**. In **NORMAL** mode, the calculator displays numbers in the usual numeric fashion that you used in elementary school — provided it can display the number by using the current Display Digits mode; if it can't, the number is displayed in scientific notation.

In **SCIENTIFIC** mode, numbers are displayed by using scientific notation, and in **ENGINEERING** mode, numbers appear in engineering notation. The three modes are illustrated in Figure 1-6.

In scientific and engineering notation, the calculator displays E_n to denote multiplication by 10^n .



Figure 1-6:
Normal,
scientific,
and
engineering
notations.

F1- Tools	F2- 1/3ab/c	F3- Calc	F4- Other	F5- Pr3mD	F6- Clean Up
■ 20.5000					100000
■ 12.0034	■ 56.00789				672.285
■ 1234.56789	■ 9876.54321				1.21933E7
1234.56789*9876.54321					
MAIN RAD AUTO PDL 3/30					

Normal

F1- Tools	F2- 1/3ab/c	F3- Calc	F4- Other	F5- Pr3mD	F6- Clean Up
■ 20.5000					100000
■ 12.0034	■ 56.00789				6.72285E2
■ 1234.56789	■ 9876.54321				1.21933E7
1234.56789*9876.54321					
MAIN RAD AUTO PDL 3/30					

Scientific

F1- Tools	F2- 1/3ab/c	F3- Calc	F4- Other	F5- Pr3mD	F6- Clean Up
■ 20.5000					100000
■ 12.0034	■ 56.00789				672.285E0
■ 1234.56789	■ 9876.54321				12.1933E6
1234.56789*9876.54321					
MAIN RAD AUTO PDL 3/30					

Engineering

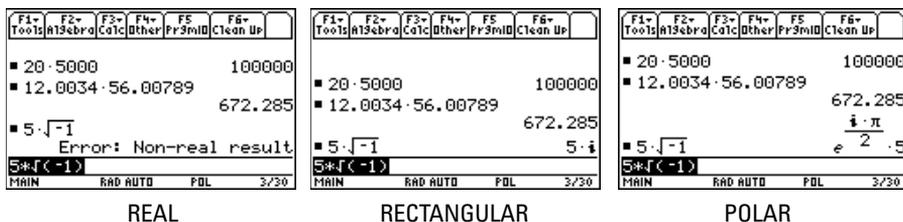


- Complex Format:** This mode tells the calculator how to display complex numbers. In REAL mode, the calculator displays an error message when confronted with a complex result, as illustrated in the first picture in Figure 1-7. In the RECTANGULAR and POLAR modes, real numbers are displayed in the normal fashion and complex numbers are displayed in the $a + bi$ rectangular format or in the $re^{i\theta}$ polar format, as in the last two pictures in Figure 1-7.

Because you don't want to get an error message when the calculator encounters a complex result, set the Complex mode to RECTANGULAR or POLAR.

- Vector Format:** You have three choices, namely RECTANGULAR, CYLINDRICAL, and SPHERICAL. In RECTANGULAR mode, two- and three-dimensional vectors are displayed as $[x, y]$ and $[x, y, z]$. In the CYLINDRICAL and SPHERICAL modes, two-dimensional vectors are displayed in $[r, \theta]$ polar format. Three-dimensional vectors are displayed by using cylindrical or spherical coordinates, depending on the selected mode.
- Pretty Print:** You have two options, OFF or ON. When Pretty Print is set to ON, the entries displayed on the calculator screen look . . . well, they look pretty, the way they do in a textbook. When it's set to OFF, the entries displayed on the screen look the same as those you enter on the command line. For example, to square 4, you enter 4^2 on the command line. With Pretty Print ON, the calculator displays 4^2 ; when it's OFF, the calculator displays 4^2 . My recommendation is to leave Pretty Print ON.
- Split Screen:** When this option is set to FULL, only one application is displayed on the screen. If you want to see two applications at the same time, such as a graph and a table, you can select TOP-BOTTOM to display one application at the top of the screen and the other at the bottom. You can also select LEFT-RIGHT to display one application on the left side of the screen and the other on the right. I explain split screens in Chapters 5 and 6.

Figure 1-7:
Displaying numbers by using the three Complex mode settings.



- ✓ **Split 1 App, Split 2 App, Number of Graphs, and Graph 2:** When the Split Screen mode is set to FULL, only the Split 1 App option is available. This option tells the calculator what application is to appear on the screen. In FULL screen mode, this option is equivalent to selecting an application from the Application menu, as I describe earlier in this chapter.

If the Split Screen mode is set to either TOP-BOTTOM or LEFT-RIGHT, Split 1 App tells the calculator which application is to appear at the top or at the left of the screen; Split 2 App tells the calculator which other application is to appear on the screen. Set the Number of Graphs option to 2 only if both parts of the screen are to display graphs; otherwise, set it to 1.

When the Number of Graphs is set to 2, the mode for the first graph is set by the first (Graph) option in the Mode menu; you use the Graph 2 option to set the graph mode for this second graph. This, for example, allows you to view a parametric graph and a polar graph on the same screen.

- ✓ **Exact/Approximate:** You have three choices, AUTO, EXACT, and APPROXIMATE. As expected, in EXACT mode, the calculator gives only the exact value of all results, and in APPROXIMATE mode, all results are displayed as decimal approximations. In EXACT mode, if the calculator can't simplify the expression you entered, it simply redisplayes the exact same expression you entered. AUTO mode, however, is the best of both worlds because it displays the exact value when possible; otherwise, it displays the approximate value.

Set the Exact/Approximate mode to AUTO. Then if the calculator gives you an exact result and you want to approximate it, simply press $\boxed{\blacklozenge}$ $\boxed{\text{ENTER}}$.

- ✓ **Base:** If you aren't a computer scientist or an engineer, you want to set this option to DEC so that your numbers are displayed in base 10. HEX displays numbers in base 16 and BIN in base 2.
- ✓ **Unit System and Custom Units:** Select SI or ENG/US if you want results involving units to use the scientific (metric) or English units. With these modes, the Custom Units option is not available. Select CUSTOM if you want to specify your own basic units of measure. Then define these units of measure in the Custom Units option.
- ✓ **Language:** Well, if you're reading this book, you might as well set this to English.

A common prank is to set someone's calculator to a language he can't read. If this happens to you, press $\boxed{\text{MODE}}$ $\boxed{\text{F3}}$ $\boxed{\blacktriangleleft}$ $\boxed{\blacktriangleright}$ $\boxed{1}$ $\boxed{\text{ENTER}}$ to reset the calculator to English. If the prankster also set the Unit System mode to CUSTOM, you have to press $\boxed{\text{MODE}}$ $\boxed{\text{F3}}$ $\boxed{\blacktriangleleft}$ $\boxed{\blacktriangleleft}$ $\boxed{\blacktriangleright}$ $\boxed{1}$ $\boxed{\text{ENTER}}$ to reset the calculator to English.

- ✓ **Apps Desktop:** This item is available only on the TI-89 Titanium. When Apps Desktop is set to ON, applications are displayed in picture form, as in the first picture in Figure 1-1. When it's set to OFF, applications appear in list format.



Using the CATALOG

The calculator's CATALOG houses every command and function used by the calculator. However, it's easier to use the keyboard and the menus to access these commands and functions than it is to use the CATALOG. Several exceptions exist, however; for example, the log function isn't housed in any of the calculator's menus. To use this command, you have to key it into the calculator or select it from the CATALOG. If you have to use the CATALOG, here's how to do it:

1. **If necessary, use the Arrow keys to place the cursor at the location where you want to insert a command or function found in the CATALOG.**
2. **Press `▢CATALOG` and enter the first letter in the name of the command or function.**

The calculator is automatically placed in Alpha mode, so to enter the letter, just press the key corresponding to that letter. (I explain Alpha mode and entering text earlier in this chapter in the section titled "Using the `▢ALPHA` and `▢↑` keys to write text.") After entering the letter, the calculator displays the CATALOG options that begin with that letter.

3. **Repeatedly press `◀▶` to move the indicator to the desired command or function.**
4. **Press `▢ENTER` to select the command or function.**

Setting the Clock

The clock on the TI-89 is visible only in the Calendar and Planner applications; on the TI-89 Titanium, it is also visible on the Application screen. (The upper-right corner of the first picture in Figure 1-1, appearing earlier in this chapter, shows a clock in desperate need of setting.) To set the clock, follow these steps:

1. **Press `▢HOME` if you aren't already on the Home screen and then press `▢F1◀x̄` to choose Clock from the Tools menu.**



If Clock doesn't appear as an item in the Tools menu on your TI-89, you need to upgrade the operating system of your calculator if you want it to be endowed with a clock. You find out how to do this in Chapter 21.

2. **Press `▶` and then either press `▢1` for a 12-hour clock or press `▢2` for a 24-hour clock.**

3. Press  and use the number keys to enter the current hour. Then press  and key in the minutes.
4. Press   **1** to select AM or press   **2** to select PM.
5. Press   and then press the key corresponding to the number of the date format of your choice.
6. Press  and use the number keys to enter the current year.
7. Press   and then press the key corresponding to the number of the current month.
8. Press  and use the number keys to enter the current day of the month.
9. Press   **2** to turn on the clock and then press **ENTER** to save your settings.

