Texas Instruments

Getting Started
with the
TI-82 STATS

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- Consult the dealer or an experienced radio/television technician for help.

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Contents

About the TI-82 STATS

The TI-82 STATS includes these features:

- **Graphing** - store, graph, and analyze up to 10 functions, up to 6 parametric functions, up to 6 polar functions, and up to three sequences.
- **Sequences** - generate sequences and graph them over time.
- **Tables** - create function evaluation tables to analyze many functions simultaneously.
- **Matrices** - enter and save up to 10 matrices and perform standard matrix operations on them.
- **Lists** - enter and save as many lists as memory allows for use in statistical analyses.
- **Statistics** - perform one- and two-variable, list-based statistical analyses, including logistic and sine regression analysis; plot the data as a histogram, xyLine, scatter plot, modified or regular box-and-whisker plot, or normal probability plot.

The CD included with your TI-82 STATS package also includes an electronic guidebook, which is a complete reference manual for the TI-82 STATS. If the CD is not available, you can download a copy of the electronic guidebook from the Texas Instruments web page at

education.ti.com/guides

About this book

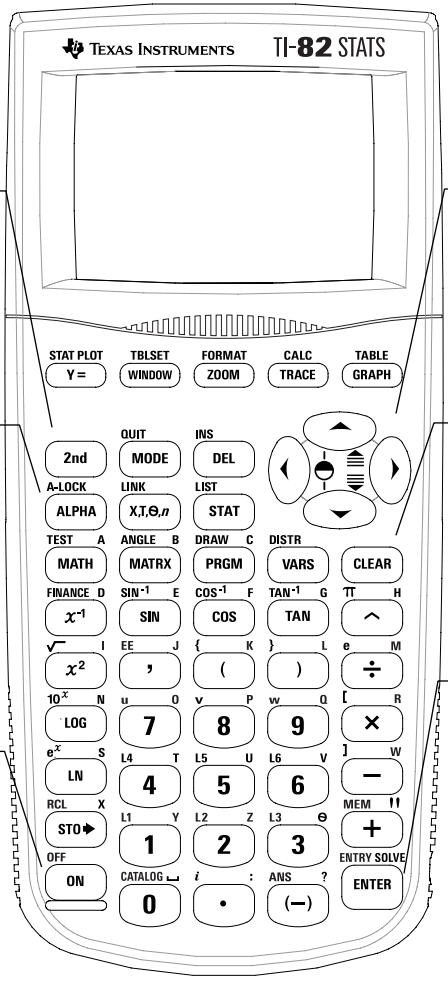
This *Getting Started Guide* was designed for:

- students who are using a graphing calculator for the first time.
- student who are using the TI-82 STATS for the first time.
- students who need a quick review of procedures for common operations on the TI-82 STATS.

This book gives a quick overview of each topic, along with keystroke instructions for easy examples. All examples assume that the TI-82 STATS is using default settings. For complete information on any topic, see the electronic guidebook on the CD that came with your TI-82 STATS.

Look for the 🕮 symbol at the top of the page in this guide. These notes direct you to the chapter in the Guidebook that provides complete details about the topic.

TI-82 STATS keys



2nd
Provides access to the function or character shown above each key in green.

ALPHA
Provides access to the characters shown above each key in orange.

ON
Turns on the TI-82 STATS.

▲ ▶ ▼ ◀
Let you move the cursor in four directions.

CLEAR
Clears (erases) the entry line or deletes an entry and answer on the home screen.

ENTER
Evaluates an expression, executes an instruction, or selects a menu item.

Turning the TI-82 STATS on and off

To turn on the TI-82 STATS, press [ON]. The [ON] key is located at the lower left corner of the TI-82 STATS.

📖 For more details, see Guidebook Chapter 1.

To turn off the TI-82 STATS, press the [2nd] key followed by the [ON] key. OFF is the *second* function of [ON].

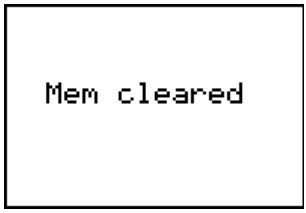
When you turn off the TI-82 STATS, all settings and memory contents are retained. The next time you turn on the TI-82 STATS, the home screen displays as it was when you last used it.

Automatic Power Down™

To prolong the life of the batteries, Automatic Power Down™ (APD™) turns off the TI-82 STATS automatically after about five minutes without any activity. The next time you turn on the calculator, it is exactly as you left it.

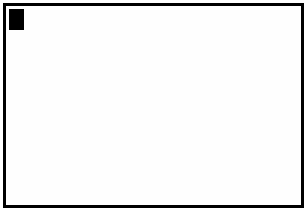
Home screen

When you turn on your TI-82 STATS the first time, you should see this screen:



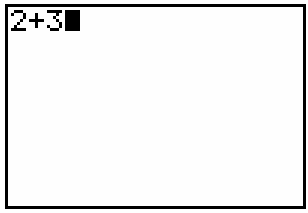
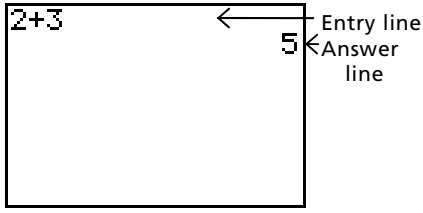
If you cannot read the text on the screen, press the 2nd key and then press and hold ▼ or ▲. Pressing ▼ lightens the screen and ▲ darkens the screen.

To clear this text from your screen, press CLEAR twice. You should now see the home screen, a blank screen with a flashing cursor. The home screen is where you enter problems and see results.



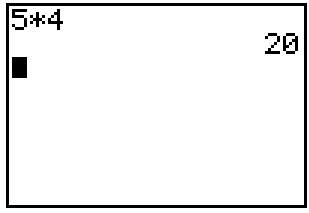
If you pressed CLEAR above and you still do not see a blank home screen, press the 2nd key followed by the MODE key (to select QUIT).

Example: Add 2 + 3 on the home screen.

Press	Result
2 [+] 3	
[ENTER]	

Note: Results are displayed on the next line (the answer line), not on the entry line.

Example: Multiply 5 x 4.

Press	Result
5 [×] 4 [ENTER]	

2nd and ALPHA keys

Most keys on the TI-82 STATS can perform two or more functions. To use a function printed on a key, press the key. To use a function printed above a key in green or orange, you must first press the 2nd key or the ALPHA key.

2nd key

Second functions are printed above the keys in green (the same color as the 2nd key). Some secondary functions enter a function or a symbol on the home screen ($\sin^{-1}$ or $\sqrt{}$, for example). Others display menus or editors.

To view the ANGLE menu, for example, look for ANGLE (printed in green) above the MATRX key near the top of the TI-82 STATS keyboard. Press the 2nd key (and then release it) and then press MATRX. In this book and in the TI-82 STATS Guidebook, this key combination is indicated by 2nd [ANGLE], not 2nd MATRX. When you see these key combinations, press each key separately, not at the same time.

Note: The flashing cursor changes to ↑ when you press the 2nd key. If you press the 2nd key accidentally, you can undo the action by pressing 2nd a second time.

ALPHA key

The ALPHA key lets you enter the alphabetic characters and some special symbols. To enter T, for example, press ALPHA (and then release it) and then press 4. In this book and in the TI-82 STATS Guidebook, this key combination is indicated by ALPHA [T].

If you have several alphabetic characters to enter, press 2nd [A-LOCK] to avoid having to press the ALPHA key multiple times. This locks the alpha key in the *On* position until you press ALPHA a second time to unlock it.

Note: The flashing cursor changes to A when you press the ALPHA key. If you press the ALPHA key accidentally, you can undo the action by pressing ALPHA a second time.

CLEAR key

The CLEAR key erases the home screen. This key is located just below the four blue arrow keys at the upper right corner of the TI-82 STATS keyboard. If you press CLEAR during an entry, it clears the entry line. If you press CLEAR when the cursor is on a blank line, it clears everything on the home screen.

Although it does not affect the calculation, it is frequently helpful to clear the previous work from the home screen before you begin a new problem. As you work through this guide, we recommend that you press CLEAR each time you begin a new ***Example***. This removes the previous example from the home screen and ensures that the screen you see matches the one shown in the example.

2nd [QUIT]

If you accidentally press a menu key, pressing CLEAR will sometimes return you to the home screen, but in most cases you must press 2nd [QUIT] to leave the menu and return to the home screen.

Entering an expression

An expression consists of numbers, variables, operators, functions, and their arguments that evaluate to a single answer. 2X + 2 is an expression.

Type the expression, and then press [ENTER] to evaluate it. To enter a function or instruction on the entry line, you can:

- Press its key, if available. For example, press [LOG].

  — or —

- Select it from the CATALOG. For example, press [2nd] [CATALOG], press [▼] to move down to **log(**, and press [ENTER] to select **log(**.

  — or —

- Select it from a menu, if available. For example, to find the **round** function, press [MATH], press [▶] to select **NUM**, then select **2:round(**.

Example: Enter and evaluate the expression $\pi \times 2$.

Press	Result
[2nd] [π] [×] **2**	π*2
[ENTER]	π*2 6.283185307

TI-82 STATS menus

Many functions and instructions are entered on the home screen by selecting from a menu.

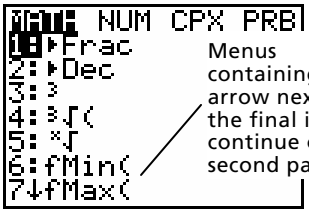
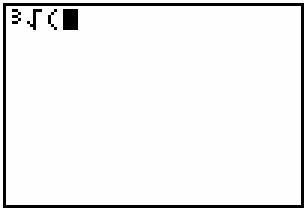
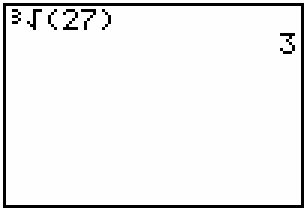
📖 For more details, see Guidebook Chapter 1.

To select an item from the displayed menu:

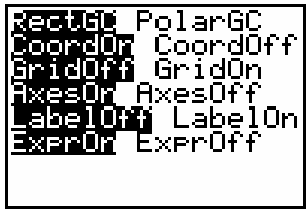
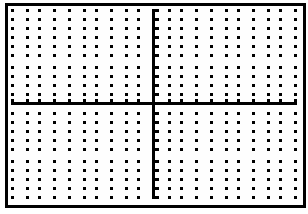
- Press the number or letter shown at the left of that item.
  — or —
- Use the cursor arrow keys, ▼ or ▲, to highlight the item, and then press [ENTER].

Some menus close automatically when you make a selection, but if the menu remains open, press [2nd] [QUIT] to exit. Do not press [CLEAR] to exit, since this will sometimes delete your selection.

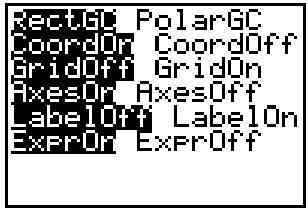
Example: Enter $\sqrt[3]{27}$ on the home screen entry line.

Press	Result
[MATH]	
4 — or — ▼ ▼ ▼ [ENTER]	
2 7 [)] [ENTER]	

Example: Change the FORMAT menu setting to display grid points on the graph.

Press	Result
2nd [FORMAT]	
▼ ▼ ▶ ENTER	
GRAPH	

Example: Turn off the display of grid points.

2nd [FORMAT] ▼ ▼ ENTER	

Note: Press 2nd [QUIT] *or* CLEAR *to close the FORMAT menu and return to the home screen.*

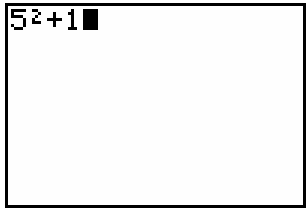
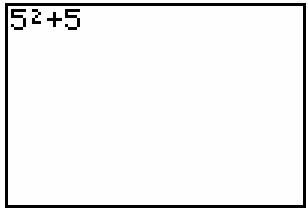
Summary of menus on the TI-82 STATS

Press	To display
[2nd] [LINK]	LINK menu — to communicate with another calculator.
[2nd] [MEM]	MEMORY menu — to check available memory and manage existing memory.
[MATH]	MATH menu — to select a math operation.
[VARS]	VARS menu — to select variable names to paste to the home screen.
[2nd] [STAT PLOT]	STAT PLOTS menu — to define statistical plots.
[2nd] [CATALOG]	CATALOG menu — to select from a complete, alphabetic list of all TI-82 STATS built-in functions and instructions.
[2nd] [FORMAT]	FORMAT menu — to define a graph's appearance.
[2nd] [MATRIX]	MATRIX menu — to define, view, and edit matrices.
[2nd] [DRAW]	DRAW menu — to select tools for drawing on graphs.
[2nd] [DISTR]	DISTRIBUTIONS menu — to select distribution functions to paste to the home screen or editor screens.
[2nd] [TEST]	TEST menu — to select relational operators (=, ≠, ≤, ≥, etc.) and Boolean operators (and, or, xor, not) to paste to the home screen.

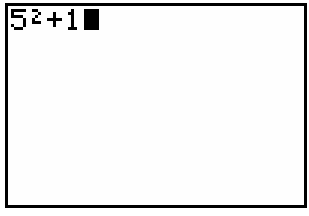
Editing and deleting

You can change any expression or entry using the backspace ◄ key, the delete DEL key, or the insert 2nd [INS] key. You can make a change before or after you press ENTER.

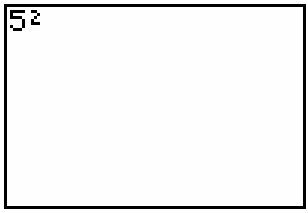
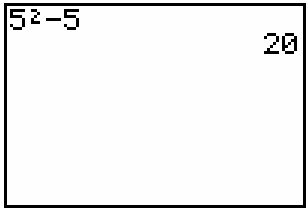
Example: Enter the expression $5^2 + 1$, and then change the expression to $5^2 + 5$.

Press	Result
5 x^2 + 1	
◄ 5	

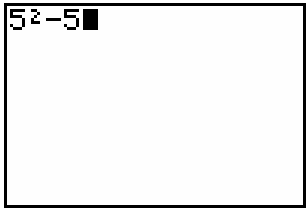
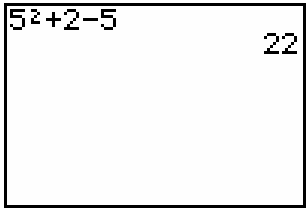
Example: Enter the expression $5^2 + 1$, and then change the expression to $5^2 - 5$.

Press	Result
5 x^2 + 1	

Editing and deleting (continued)

Press	Result
◀ ◀ DEL DEL	
− 5 ENTER	

Example: Change the example above to 5^2 + 2 - 5 using 2nd [ENTRY] to recall the expression and 2nd [INS] to insert + 2 into the expression.

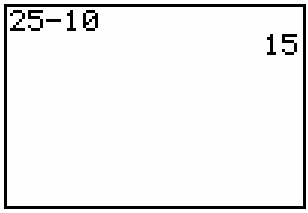
Press	Result
2nd [ENTRY]	
◀ ◀ 2nd [INS] + 2 ENTER	

Using [−] and [(-)]

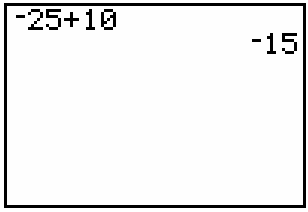
Many calculators (including the TI-82 STATS) make a distinction between the symbols for subtraction and negation.

Use [−] to enter subtraction operations. Use [(-)] to enter a negative number in an operation, in an expression, or on a setup screen.

Example: Subtract 10 from 25.

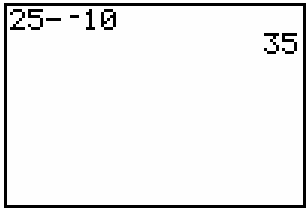
Press	Result
2 5 [−] 1 0 [ENTER]	

Example: Add 10 to ⁻25.

Press	Result
[(-)] 2 5 [+] 1 0 [ENTER]	

Using [−] and [(-)] (continued)

Example: Subtract ⁻10 from 25.

Press	Result
2 5 [−] [(-)] 1 0 [ENTER]	

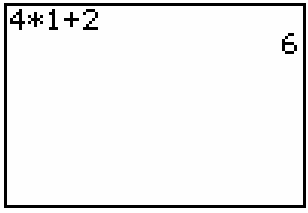
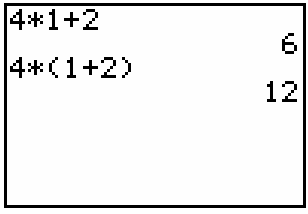
Note: Notice that the TI-82 STATS displays a slightly different symbol for negation and subtraction to make it easier for you to distinguish between the two. The negative symbol is raised and slightly shorter.

Using parentheses

Since all calculations inside parentheses are completed first, it is sometimes important to place a portion of an expression inside parentheses.

📖 For more details, see Guidebook Chapter 3.

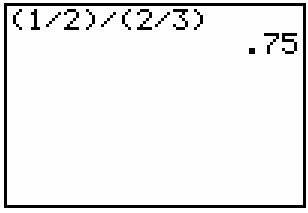
Example: Multiply 4*1+2; then multiply 4*(1+2).

Press	Result
4 × 1 + 2 ENTER	
4 × (1 + 2) ENTER	

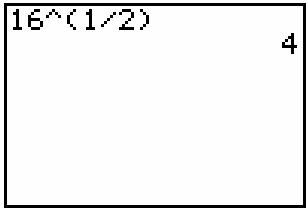
Note: The closing parenthesis) is optional. The operation will be completed if you omit it. The exception to this rule occurs when there is another operation following the parenthetical operation. In this case, you must include the closing parenthesis.

Using parentheses (continued)

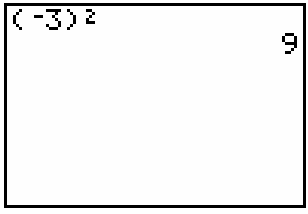
Example: Divide 1/2 by 2/3.

Press	Result
(1 ÷ 2) ÷ (2 ÷ 3) ENTER	

Example: Calculate 16 ^ $\frac{1}{2}$.

Press	Result
1 6 ^ (1 ÷ 2) ENTER	

Example: Calculate $(-3)^2$.

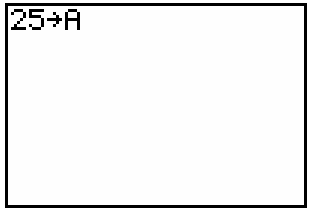
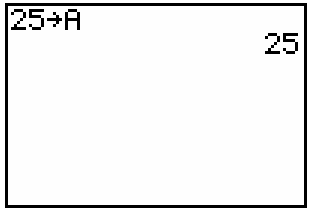
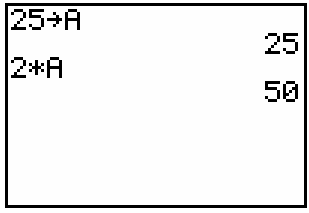
Press	Result
((-) 3) x^2 ENTER	

Note: Try each of these examples without the parentheses and see what happens!

Storing a value

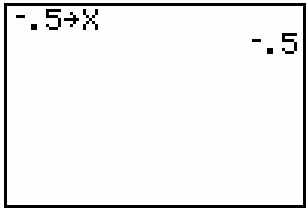
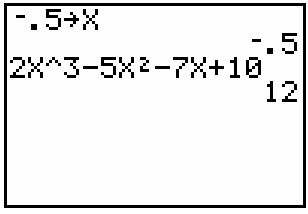
Values are stored to and recalled from memory using variable names.

Example: Store 25 to variable A and multiply A by 2.

Press	Result
2 5 STO▸ ALPHA [A]	
ENTER	
2 × ALPHA [A] ENTER	
— or — ALPHA [A] × **2** ENTER	

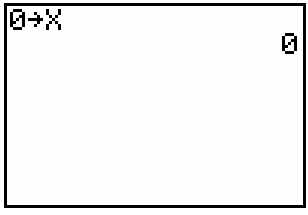
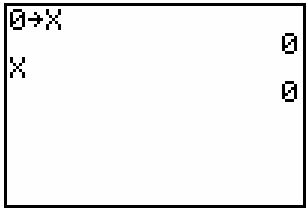
Storing a value (continued)

Example: Find the value of $2X^3 - 5X^2 - 7X + 10$ when $X = -0.5$.

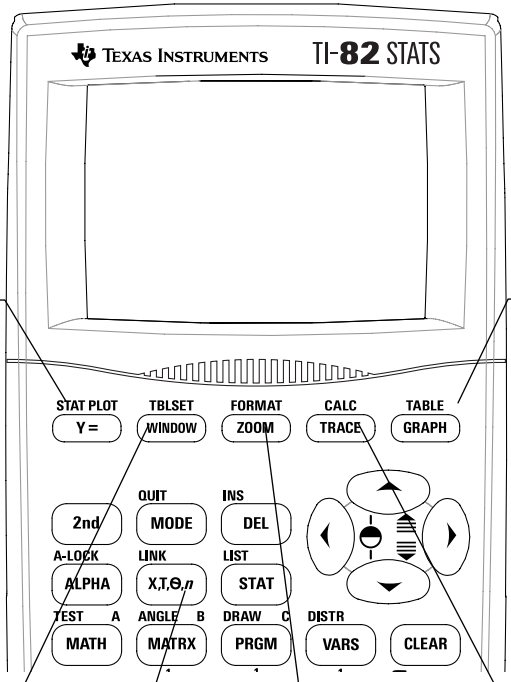
Press	Result
(-) . **5** STO▶ X,T,Θ,*n* ENTER (stores -.5 to X)	
2 X,T,Θ,*n* ^ **3** − **5** X,T,Θ,*n* x^2 − **7** X,T,Θ,*n* + **1 0** ENTER	

You can remove a value stored to a variable using the DELVAR function or by storing 0 to the variable.

Example: Delete the value (-.5) stored to X above by storing 0.

Press	Result
0 STO▶ X,T,Θ,*n* ENTER	
X,T,Θ,*n* ENTER	

Graphing a function



Y=
Displays the Y= Editor, where you can enter one or more functions or expressions to graph.

GRAPH
Displays the graph you have defined.

WINDOW
Lets you set the viewing window to produce the best display of your graph.

X,T,Θ,n
Lets you enter one of four symbols: **X** (if you are in Function mode), **T** (in Parametric mode), θ (in Polar mode), or ***n*** (in Sequence mode).

ZOOM
Lets you quickly adjust the window to a predefined setting.

TRACE
Lets you move the cursor along the graphed function using ◄ and ►.

Graphing a function (continued)

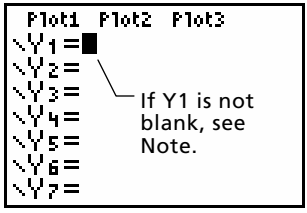
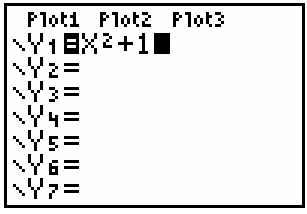
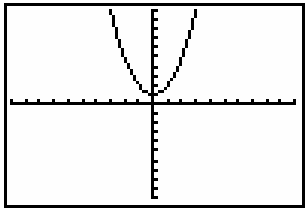
To graph a function, you must:

1. Display the Y= Editor.
2. Enter the function.
3. Display the graph.

📖 For more details, see Guidebook Chapter 3.

Note: If you previously changed graph type in the mode settings, you must change the type back to Func (the default setting) before you graph.

Example: Graph the function $Y = X^2 + 1$.

Press	Result
[Y=]	
[X,T,Θ,n] [x²] [+] 1	
[GRAPH]	

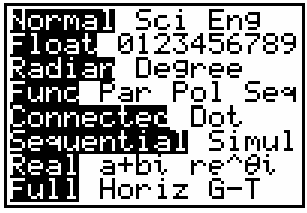
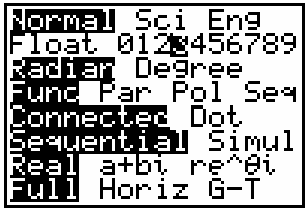
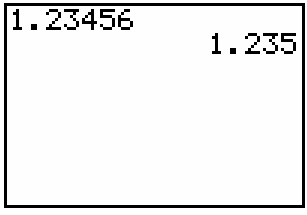
Note: If Y1 is not empty, press [CLEAR]. If there are additional entries in the Y= Editor, press [▼] [CLEAR] until all are clear.

Changing mode settings

The mode settings determine how entries are interpreted and how answers are displayed on the TI-82 STATS.

📖 For more details, see Guidebook Chapter 1.

Example: Change the mode setting for decimals from *Float* to *3* decimal places.

Press	Result
MODE	
▼ ▶ ▶ ▶ ▶ ENTER	
2nd [QUIT] **1 . 2 3 4 5 6** ENTER	

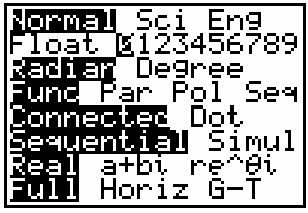
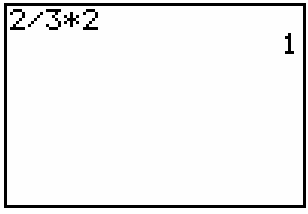
Note: You must press ENTER *to change a mode setting. If you highlight the setting and then exit the mode menu without pressing* ENTER*, the setting will not be changed.*

The mode menu includes the following settings:

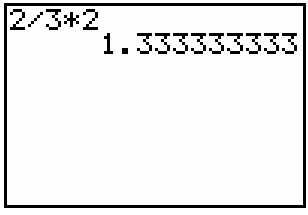
Setting	Choices
Numeric notation	*Normal:* for example, 12345.67 *Sci* (scientific): for example, 1.234567E4 *Eng* (engineering): for example, 12.34567E3
Decimal	*Float:* lets the number of decimal places change based on the result (up to 10 digits) *0 - 9:* sets the number of decimal places to a value (0 - 9) that you specify
Angle measure	*Radian:* interprets angle values as radians *Degree:* interprets angle values as degrees
Type of graph	*Func* (functional): plots functions, where Y is a function of X *Par* (parametric): plots relations, where X and Y are functions of T *Pol* (polar): plots functions, where r is a function of [*n*]θ *Seq* (sequence): plots sequences
Plot type	*Connected:* draws a line connecting each point calculated for the selected functions *Dot*: plots only the calculated points of the selected functions
Sequential or simultaneous graphing	*Sequential:* draws graphs one at a time *Simul* (simultaneous): draws all selected graphs at the same time
Real or complex mode	*Real:* displays real numbers, such as 1, 1/2, $\sqrt{3}$ *a+bi* (rectangular complex): displays as 3+2i *re^θi* (polar complex): displays as re^θi
Screen display	*Full:* displays full screen *Horiz:* displays a horizontal split screen *G-T:* displays a vertical split screen (graph & table)

The importance of mode settings

Example: Multiply 2/3 × 2.

Press	Result
MODE ▼ ▶ ENTER	
2 ÷ 3 × 2 ENTER	

Your first reaction to this example is that the calculator has produced a wrong answer. But you have set it to round to 0 decimal places (the nearest whole number), so for this setting the answer is correct. If you set rounding (decimals displayed) to 0 and then forget to reset it for later calculations, you may be surprised by some of your answers! With mode set to the default setting of *Float*, the result will be:

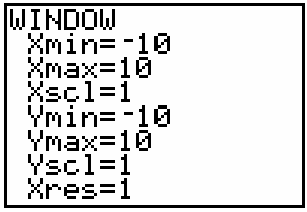
Press	Result
2 ÷ 3 × 2 ENTER	

Setting the graphing window

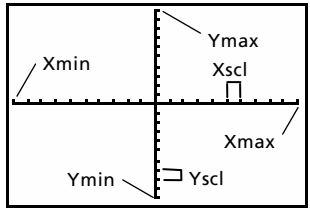
To obtain the best view of the graph, you may need to change the boundaries of the window.

📖 For more details, see Guidebook Chapter 3.

To display the WINDOW Editor, press [WINDOW].



Window variables
(shown in WINDOW Editor)



Corresponding viewing window
(shown on Graph window)

The *Xmin*, *Xmax*, *Ymin*, and *Ymax* variables represent the boundaries of the viewing window.

Xmin: the minimum value of X to be displayed.
Xmax: the maximum value of X to be displayed.
Ymin: the minimum value of Y to be displayed.
Ymax: the maximum value of Y to be displayed.
Xscl (X scale): the distance between the tick marks on the X axis.
Yscl (Y scale): the distance between the tick marks on the Y axis.
Xres: pixel resolution—not usually changed except by advanced users.

To change the values:

1. Move the cursor to highlight the value you want to change.
2. Do one of the following:
   - Type a value or an expression. The old value is erased when you begin typing.

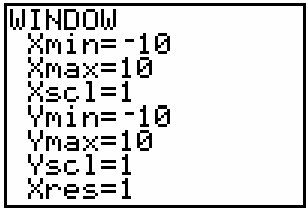
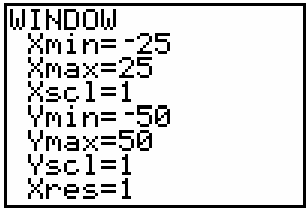
     — or —

   - Press [CLEAR] to clear the old value; then type the new one.
3. Press [ENTER], [▼], or [▲].

Note: Values are stored as you type them; you do not need to press [ENTER]*. Pressing* [ENTER] *simply moves the cursor to the next window variable.*

4. After you have made all changes, press [2nd] [QUIT] to close the WINDOW Editor (or [GRAPH] to display the graph).

Example: Change the window settings to display a maximum X value of 25, a minimum X value of ⁻25, a maximum Y value of 50, and a minimum Y value of ⁻50.

Press	Result
[WINDOW]	
[(-)] **2 5** [▼] **2 5** [▼] [▼] [(-)] **5 0** [▼] **5 0**	
[2nd] [QUIT]	

Using ZOOM

The TI-82 STATS has ten predefined window settings that let you quickly adjust the graph window to a predetermined level of magnification. To display this menu, press ZOOM.

📖 For more details, see Guidebook Chapter 3.

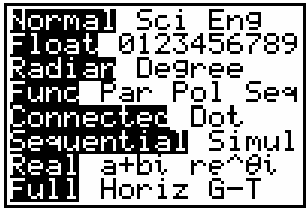
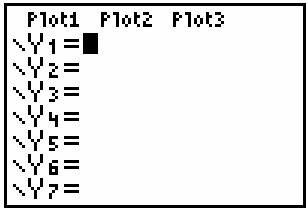
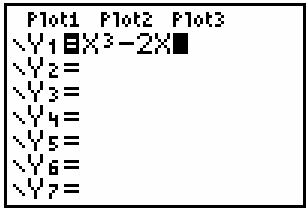
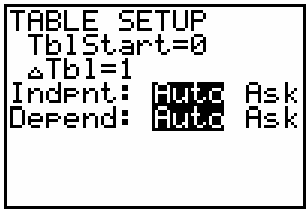
Selection	Result
1: ZBox	Lets you draw a box (using the cursor pad) to define the viewing window.
2: Zoom In	After you position the cursor and press ENTER, magnifies the graph around the cursor.
3: Zoom Out	After you position the cursor and press ENTER, displays more of the graph.
4: ZDecimal	Sets the change in X and Y to increments of .1 when you use TRACE.
5: ZSquare	Adjusts the viewing window so that X and Y dimensions are equal.
6: ZStandard	Sets the standard (default) window variables.
7: ZTrig	Sets the built-in trigonometry window variables.
8: ZInteger	After you position the cursor and press ENTER, sets the change in X and Y to whole number increments.
9: ZoomStat	Sets the values for currently defined statistical lists.
0: ZoomFit	Fits **Ymin** and **Ymax** between **Xmin** and **Xmax**.

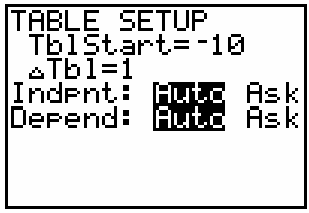
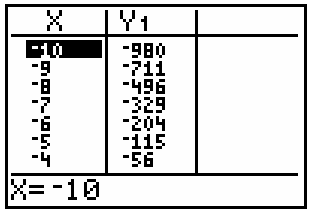
Building a table

Tables are useful tools for comparing values for a function at multiple points.

📖 For more details, see Guidebook Chapter 7.

Example: Build a table to evaluate the function $Y = X^3 - 2X$ at each integer between ⁻10 and 10.

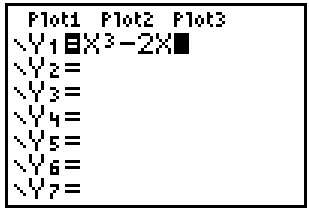
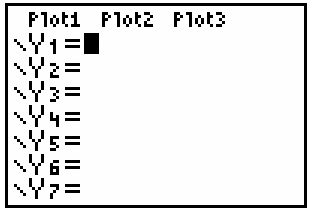
Press	Result
MODE ▼ ▼ ▼ ENTER (sets function graphing mode)	
Y=	
X,T,Θ,n MATH 3 − 2 X,T,Θ,n	
2nd [TBLSET]	

Press	Result
(-) 1 0 ENTER (sets TblStart; default settings shown for the other fields are appropriate)	
2nd [TABLE]	

Note: Press ▼ repeatedly to see the changes in X and Y.

Clearing the Y= Editor

Before proceeding with the remaining examples in this guide, clear the Y= Editor.

Press	Result
Y=	
CLEAR	

Using the CATALOG

The CATALOG is an alphabetic list of all functions and instructions on the TI-82 STATS. Some of these items are also available on keys and menus.

📖 For more details, see Guidebook Chapter 15.

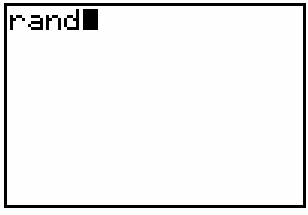
To select from the CATALOG:

1. Position the cursor where you want to insert the item.
2. Press [2nd] [CATALOG].
3. Press [▼] or [▲] to move the ▸ indicator to the function or instruction. (You can move quickly down the list by typing the first letter of the item you need. You do not need to press [ALPHA]. The CATALOG defaults to Alpha-lock mode.)
4. Press [ENTER]. Your selection is pasted on the home screen.

Notes:

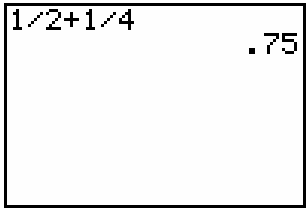
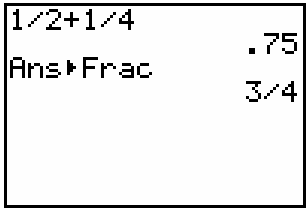
- *Items are listed in alphabetical order. Those that do not start with a letter (+, ≥, √, π, and so on) are at the end of the list.*
- *You can also paste from the CATALOG to an editor, such as the Y= Editor.*

Example: Enter the *rand* function on the home screen.

Press	Result
[2nd] [CATALOG] [R] [▼]	
[ENTER]	

Changing a decimal to a fraction

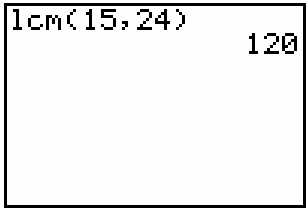
Example: Add 1/2 + 1/4 and change your answer to a fraction.

Press	Result
1 ÷ **2** + **1** ÷ **4** ENTER	
MATH **1** ENTER	

Note: You can perform an operation using the last answer without entering the value again. When you do this, (as you did in the step 2 above), the TI-82 STATS enters ***Ans*** *on the screen.*

Finding the least common multiple

Example: Find the least common multiple of 15 and 24.

Press	Result
MATH ▶ ▲ ▲ ENTER **1 5** , **2 4**) ENTER	

Finding the square root

Example: Find the square root of 256.

Press	Result
2nd [√] **2 5 6**) ENTER	√(256) 16

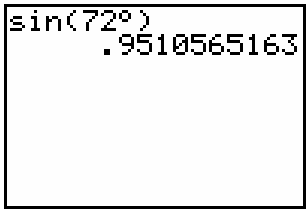
Finding the factorial of numbers

Example: Compute the factorial of 5 and 30.

Press	Result
5 MATH ▶ ▶ ▶ **4** ENTER	5! 120
3 0 MATH ▶ ▶ ▶ **4** ENTER	5! 120 30! 2.652528598E32 Scientific notation

Solving trigonometric functions

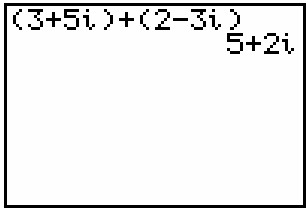
Example: Find the sine of an angle of 72°.

Press	Result
SIN **7 2** 2nd [ANGLE] ENTER) ENTER	

Note: If you are solving multiple problems using angles, be sure that mode is set to Degree. If you are in Radian mode and do not wish to change the mode, you can use 2nd [ANGLE] ENTER *(as you did in this example) to add the degree symbol to the calculation and override the Radian mode setting.*

Adding Complex Numbers

Example: Add (3+5i) + (2-3i).

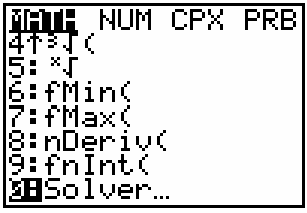
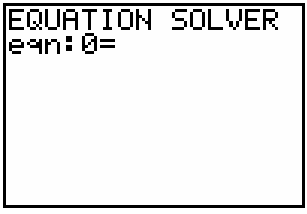
Press	Result
(**3** + **5** 2nd [i]) + (**2** − **3** 2nd [i]) ENTER	

Note: The i character is the second function of . *(the decimal key).*

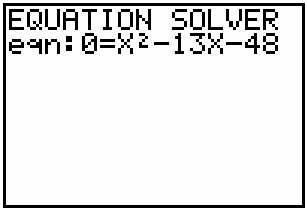
Using the equation solver

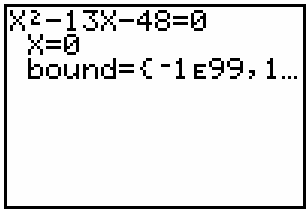
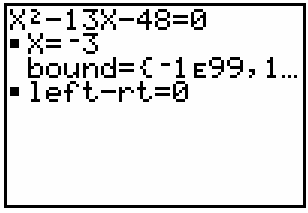
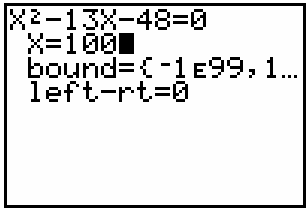
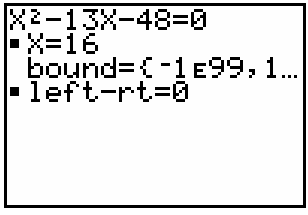
You can use the TI-82 STATS equation solver to solve for a variable in an equation.

Example: Find the roots for the equation $X^2 - 13X - 48 = 0$.

Press	Result
MATH ▲	
ENTER	

Note: If you do not see **eqn:0=** *as shown above, press* ▲ *(the up arrow), and then press* CLEAR *to erase the existing equation.*

X,T,Θ,*n* x^2 − **1 3** X,T,Θ,*n* − **4 8**	

Press	Result
ENTER	
ALPHA [SOLVE]	
1 0 0	
ALPHA [SOLVE]	

The two roots are -3 and 16. Since you did not enter a guess, the TI-82 STATS used 0 (the default guess) and first returned the answer nearest 0. To find other roots, you must enter another guess. In this example, you entered 100.

Entering data into lists

You can enter data into lists using either of two methods:

- Using braces and STO▶ on the home screen

— or —

- Using the statistical list editor.

📖 For more details, see Guidebook Chapter 11 and Chapter 12.

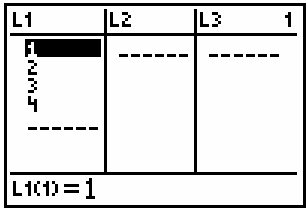
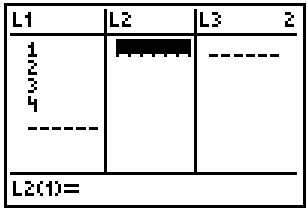
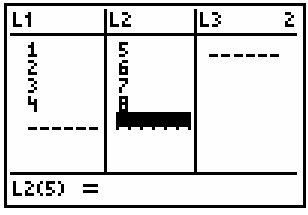
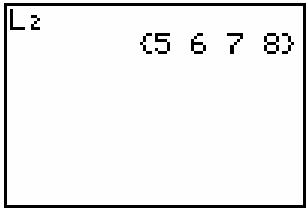
Using STO▶

Example: Store 1, 2, 3, and 4 to list 1 (L1).

Press	Result
2nd [{] **1** , **2** , **3** , **4** 2nd [}]	{1,2,3,4}
STO▶	{1,2,3,4}→
2nd [L1] ENTER	{1,2,3,4}→L1 {1 2 3 4}

Using the statistical list editor

Example: Store 5, 6, 7, and 8 to list 2 (L2).

Press	Result
STAT ENTER	
▶ ▲ CLEAR ENTER (if L2 already contains data)	
5 ENTER 6 ENTER 7 ENTER 8 ENTER	
2nd [QUIT] 2nd [L2] ENTER (displays the contents of the list on the home screen)	

Plotting data

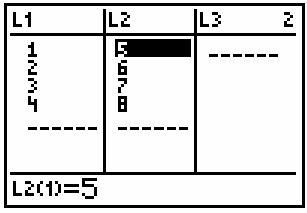
When you have statistical data stored in lists, you can display the data you have collected in a scatter plot, xyLine, histogram, box plot, or normal probability plot.

📖 For more details, see Guidebook Chapter 12.

You will need to:

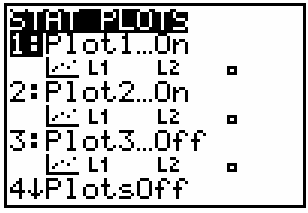
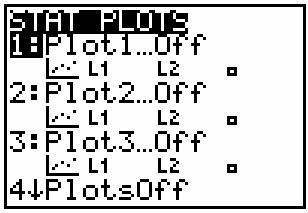
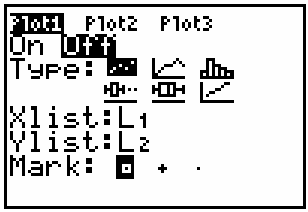
1. Determine which lists contain your data.
2. Tell the calculator which lists of data you want to plot and define the plot.
3. Display the plot.

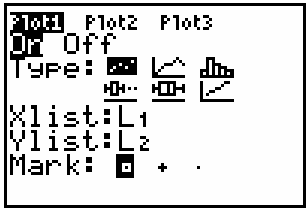
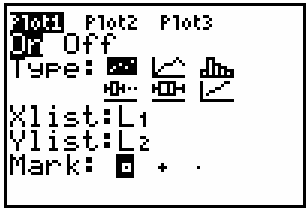
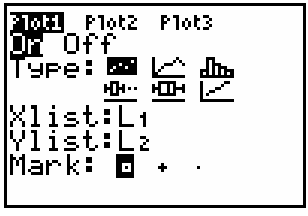
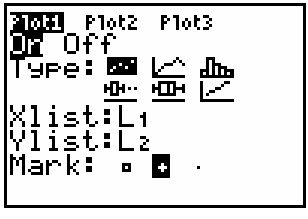
Determine which lists contain your data

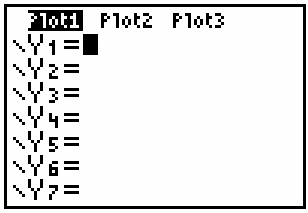
Press	Result
STAT	
ENTER	

Note: In some cases, you may have several lists stored and you may have to press ▶ several times to find the correct lists.

Tell the calculator which lists you want to plot

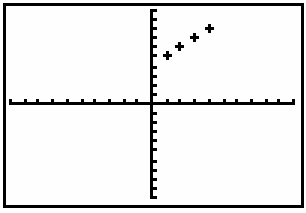
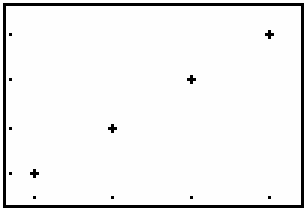
Press	Result
2nd [STAT PLOT]	
4 ENTER (turns plots off if any plots are on)	
2nd [STAT PLOT]	
ENTER	

Press	Result
ENTER (turns Plot1 on)	
▼ ▼ 2nd [LIST] ENTER (enters L1 as the Xlist)	
▼ 2nd [LIST] ▼ ENTER (enters L2 as the Ylist)	
▼ ▶ ENTER (selects + as the plotting mark)	

Press	Result
Y= CLEAR	

Note: This step is optional and is not necessary unless there is a previous entry in the Y= Editor. If there are additional entries in the Y= Editor, press ▼ CLEAR *until all are clear.*

Display the plot

Press	Result
GRAPH	
ZOOM ▲ ▲ ENTER (selects ZoomStat)	

Note: If you would like to add the regression line to a scatter plot, follow the instructions on page 43, adding Y1 to the end of the instruction: **LinReg(ax+b) L1, L2, Y1**. *(Press* VARS ▶ ENTER ENTER *to add Y1.) Press* GRAPH *to see the regression line.*

Calculating a linear regression

If you wish to calculate the linear regression for data, you can do so using the **LinReg** instruction from the [STAT] CALC menu.

Example: Calculate the linear regression for the data entered in L1 and L2 (on pages 37 and 38).

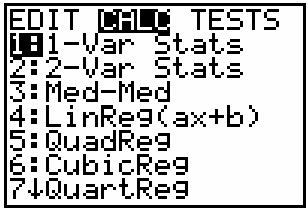
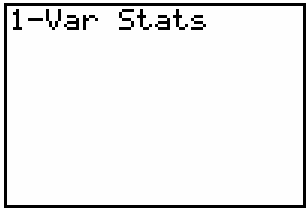
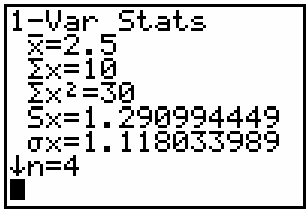
Press	Result
[STAT] [▶] [▼] [▼] [▼]	EDIT CALC TESTS 1:1-Var Stats 2:2-Var Stats 3:Med-Med 4:LinReg(ax+b) 5:QuadReg 6:CubicReg 7↓QuartReg
[ENTER]	LinReg(ax+b)
[2nd] [L1] [,] [2nd] [L2]	LinReg(ax+b) L1, L2
[ENTER]	LinReg y=ax+b a=1 b=4

Note: The information on the last screen means that the points in L1 and L2 [(1,5) (2,6) (3,7) (4,8)] all lie on the line Y = X + 4.

Calculating statistical variables

The TI-82 STATS lets you easily calculate one-variable or two-variable statistics for data that you have entered into lists.

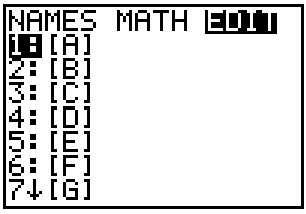
Example: Using the data that you entered into L1 on page 37, calculate one-variable statistics.

Press	Result
STAT ▶	
ENTER	
2nd [L1]	
ENTER	

Using the MATRIX Editor

Creating a new matrix

For more details, see Guidebook Chapter 10.

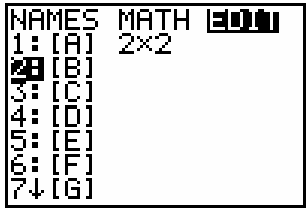
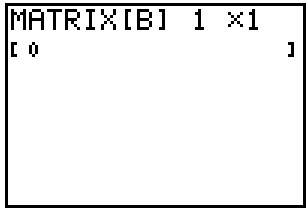
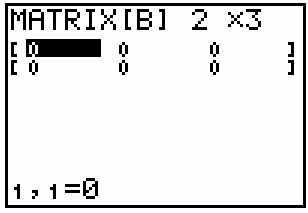
Press	Result
MATRX ◀	
ENTER	
2 ENTER 2 ENTER	
1 ENTER 5 ENTER 2 ENTER 8 ENTER	

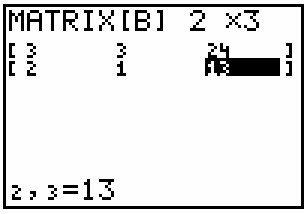
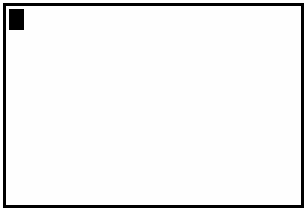
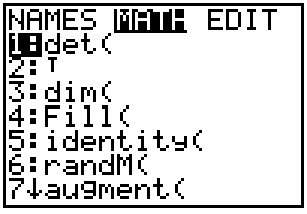
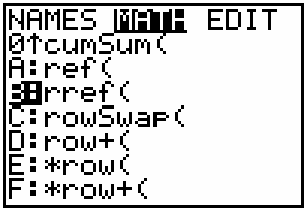
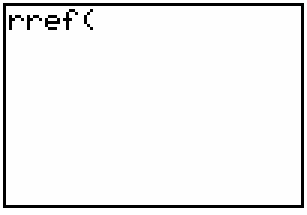
Note: When you press ENTER, the cursor automatically highlights the next cell so that you can continue entering or editing values. To enter a new value, you can start typing without pressing ENTER, but you must press ENTER to edit an existing value.

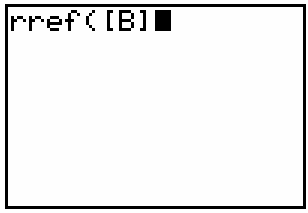
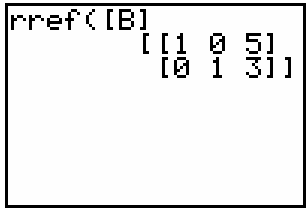
Using matrices to solve systems of equations

You can solve several equations simultaneously by entering their coefficients into a matrix and then using the **rref** (reduced row-echelon form) function. For example, in the equations below, enter 3, 3, and 24 (for 3X, 3Y, and 24) in the first row, and 2, 1, 13 (for 2X, 1Y, and 13) in the second row.

Example: Solve 3X + 3Y = 24
and 2X + Y = 13

Press	Result
MATRX ▶ ▶ ▼	
ENTER	
2 ENTER 3 ENTER	

Press	Result
3 ENTER 3 ENTER 2 4 ENTER 2 ENTER 1 ENTER 1 3 ENTER	
2nd [QUIT]	
MATRX ▶	
▲ ▲ ▲ ▲ ▲	
ENTER	

Press	Result
MATRX ▼ ENTER	
ENTER	

You can interpret the resulting matrix as:

[1 0 5] represents 1X + 0Y = 5 or X = 5

[0 1 3] represents 0X + 1Y = 3 or Y = 3

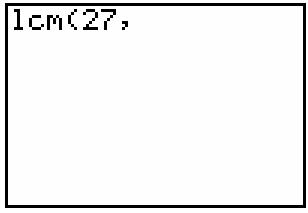
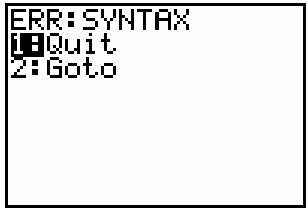
The solution to this system of equations is X = 5, Y = 3.

Error messages

Occasionally, when you enter a function or instruction or attempt to display a graph, the TI-82 STATS will return an error message.

📖 For more details, see Guidebook Appendix B.

Example: Enter the least common multiple function **lcm(** followed by only one number.

Press	Result
MATH ▶ ▲ ▲ ENTER **2 7** ,	
ENTER	

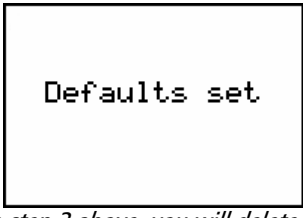
If you select **1:Quit**, you return to the home screen with the cursor on a new entry line. If you select **2:Goto**, you return to the original entry line; the cursor is flashing at the location of the error. You can now correct the error and continue.

You can find a complete list of error conditions with explanations in the Guidebook, Appendix B: General Information.

Resetting defaults

If you are getting unexpected results, or if another person has used your calculator and may have changed the settings, you should consider resetting defaults on the TI-82 STATS.

📖 For more details, see Guidebook Chapter 18.

Press	Result
2nd [MEM]	
5	
2	
2	

WARNING: If you reset All Memory in step 3 above, you will delete stored variables, lists, applications, and programs. Be sure you have backed up any essential data before you select this option.

Connecting to a computer

You can connect your TI-82 STATS to a personal computer using TI Connect™ software and a TI Connectivity cable. The software is included on the CD in the TI-82 STATS package.

When you connect to the TI Connect ™ software, the TI-82 STATS calculator will be identified by TI Connect ™ as a TI-83 calculator. Everything else should function as expected.

For more information, consult the TI Connect™ Help.

Press	To
2nd ▲	Darken the screen
2nd ▼	Lighten the screen
2nd ▶	Move the cursor to the end of an expression
2nd ◀	Move the cursor to the beginning of an expression
ALPHA ▼	Page down to the next screen (on menus)
ALPHA ▲	Page up to the next screen (on menus)
2nd [ENTRY]	Place your last entry on the current entry line on the home screen
2nd [ANS]	Place Ans (a reference to your last answer) on the current entry line on the home screen, allowing you to use the answer in the next calculation
DEL	Delete the character under the cursor
2nd [INS]	Insert additional characters at the cursor
▼ ▲	Move the cursor from line to line
▶ ◀	Move the cursor from character to character within a line
CLEAR	Clear the current line. (If the cursor is on a blank line, clears everything on the home screen.)

Texas Instruments (TI) Support and Service

For general information

For more information about TI products and services, contact TI by e-mail or visit the TI Internet address.

E-mail inquiries: **ticares@ti.com**

Home Page: **education.ti.com**

Service and warranty information

For information about the length and terms of the warranty or about product service, refer to the warranty statement enclosed with this product or contact your local Texas Instruments retailer/distributor.

Battery precautions

Take these precautions when replacing batteries.

- Do not leave batteries within the reach of children.
- Do not mix new and used batteries. Do not mix brands (or types within brands) of batteries.
- Do not mix rechargeable and non-rechargeable batteries.
- Install batteries according to polarity (+ and -) diagrams.
- Do not place non-rechargeable batteries in a battery recharger.
- Properly dispose of used batteries immediately.
- Do not incinerate or dismantle batteries.