

UH-OH!

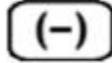
Troubleshooting the TI-83/84 Graphing Calculator

```
ERR:SYNTAX
1:Quit
2:Goto
```

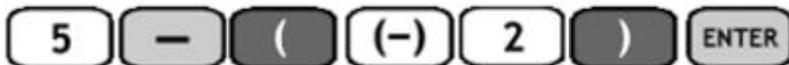
Choosing Quit or Goto

When you receive an Error Message and get a choice of **Quit** or **Goto**, it is usually better to choose **Goto**. After you press **Goto**, the calculator will jump to the spot that is causing the error, letting you know what needs to be changed to correct the error.

The Minus key and the Change Sign key are NOT interchangeable.



Ex) Suppose you want to calculate: $5 - (-2)$



is entered CORRECTLY.



will give you a Syntax Error.

Failure to use Parentheses may yield unexpected results.

Ex) Suppose you want to graph the function: $Y1 = \frac{x + 5}{x - 2}$.

A common mistake is to enter:

However, by order of operations, this yields $x + \frac{5}{x} - 2$. You need to enter:

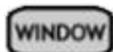


A Rule-of-Thumb is: Always enclose both the numerator and the denominator in parentheses. Additionally, when you are not sure if you should use Parentheses or not, use Parentheses.

Problems with the Window Range

Xmin must be less than Xmax and Ymin must be less than Ymax.

Suppose that you press



and enter the following:

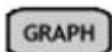
Incorrect

```
WINDOW
Xmin=8
Xmax=-8
Xscl=1
Ymin=8
Ymax=-8
Yscl=1
Xres=1
```

Correct

```
WINDOW
Xmin=-8
Xmax=8
Xscl=1
Ymin=-8
Ymax=8
Yscl=1
Xres=1
```

When you press



you will get the following Error Message:

```
ERR:WINDOW RANGE
[ ]Quit
```

What does Xres do?

To graph a function, the calculator plots points in the window, connecting the points to create the graph. Xres controls the number of X-values or points used to create the graph.

When Xres=1, the X-values / points are closer together, resulting in a smoother graph.

For Xres=1, an X-value is used for each pixel across the screen (96 pixels ? 96 X-values).

When Xres=8, the X-values / points are farther apart, resulting in a more jagged graph.

For Xres=8, an X-value is used every 8 pixels (96 pixels / 8 = 12 ? 12 X-values).

If using Xres=1 produces a smoother graph, then why use a larger value for Xres?

Plotting more points (Xres=1) takes longer to draw the graph than plotting fewer points.

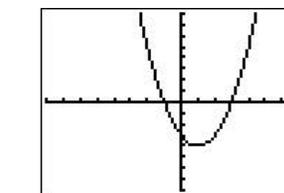
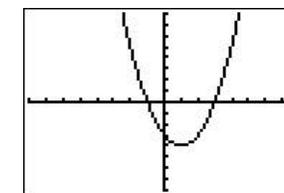
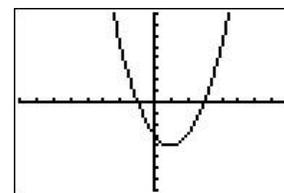
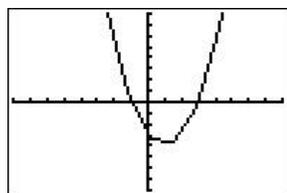
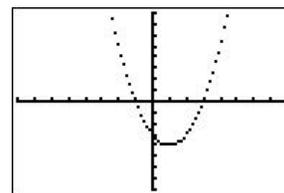
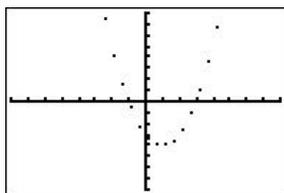
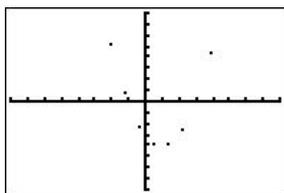
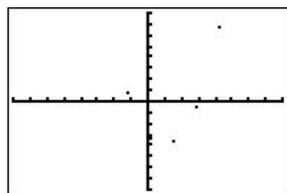
If you need to speed up the graphing, change Xres=1 to Xres=3, a balance between speed and smoother graphs.

Xres=8

Xres=5

Xres=3

Xres=1



Problems with Tables

The Y-values are missing from the Table.

X		
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
X=0		

When you press **2nd** **GRAPH** , i.e. Table,
The Y-values do not show up in the Table.

Cause: You must enter an expression for the function in the calculator before creating a table for that function.

Press **Y=** , then enter an expression for the function.

You can't delete the X-values from the Table.

X	Y1	
0	0	
1	1	
2	4	
3	9	
4	16	
5	25	
6	36	
X=0		

When you press **2nd** **GRAPH** , i.e. Table, and press **DEL**
to delete the X-values one-by-one, nothing happens.

Cause: The Table is set to Automatically fill in the X- and Y-Values. You must go to TABLE SETUP and change the Independent Variable to ASK.

TABLE SETUP		
TblStart=0		
ΔTbl=1		
Indent: Auto	ASK	
Depend: AUTO	Hsk	

First enter Table Setup Mode: Press **2nd** **WINDOW**
Move the blinking cursor down to the Independent Variable,
then move the cursor on top of **ASK** , and press **ENTER** .

When you switch to Table Mode, you will be able to delete the
X- and Y-values in the table.
