TI-89/89T/92+/V200[‡] Bug List

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Last updated on June 5th, 2005
Version 1.3 beta 7

Notes: This bug list includes bugs of the Computer Algebra System (CAS) or OS. It also includes bugs in TI-developed Flash Applications. Credit has been given for original bug reports whenever I remember the name of the reporter, unless I came across the issue by myself. If you feel you have not been given due credit, please let me know. Also, if you find any new bugs (or old bugs that I have missed), please send me a full description and I will review them and include them in the next version of the bug list.

Computer Algebra Systems are relatively new and quite complicated, and most have major bugs. The important thing to remember is to check your answers. One can usually check answers using a variety of methods, depending on what you are trying to do (e.g., differentiate an expression after integrating, or substitute a value for a variable and check whether the answer "looks right").

I highly recommend Doug Burkett's Tip List, which can be downloaded (in PDF format) from:

- http://technicalc.org/tiplist/
- ftp://ftp.ti.com/pub/graph-ti/calc-apps/92plus/math/tips.pdf

The tip list provides answers to many *in*frequently asked questions, and is a great supplement to the excellent calculator guidebook. Some of the bugs and limitations mentioned herein have been taken from the tip list.

This bug list refers only to the latest released version of the Advanced Mathematics Software[§] (currently version 2.09) and the latest versions of all Flash Applications, and bugs that have been fixed are marked as "Closed".

With that said, let us proceed to the bug list…

[‡] Collectively or individually referred to as the TI-68k

[§] A trademark of Texas Instruments

Bugs:

#	Short Description	Status	Notes
1	Random function graphing in 3D causes crash in subsequent operations	Open	
2	Dialog box overloading overwrites buttons	Open	
3	Wrong answer when integrating cosh() symbolically	Closed	
4	Incorrect error message when unlocking an archived variable	Closed	
5	Text Editor refresh issue when opening saved copy of locked or archived text variable	Closed	
6	Catalog shows incorrect help text when trying to show help string for a routine that does not have one	Closed	
7	Custom menu bug	Closed	
8	product({}) gives an Internal Error [Alex Astashyn]	Closed	
9	deSolve(y"+y=0 and y(0)=1 and y(pi)=0,x,y) incorrectly returns y=0, which does not satisfy the first boundary condition	Closed	
10	Solve() returns incorrect result with large polynomial coefficients	Closed	
11	Integrate(1/(1+a*cos(x)),x,0,2pi) incorrectly returns zero	Open	
12	Incorrect function graph for nested derivatives	Open	
13	ROM call sf_width returns wrong width for the characters 'm', 'M', 'w', and 'W'	?	
14	Loss of precision in Statistics application	Open	
15	Solve() returns general result without a necessary condition	Open	
16	deSolve((x^2+2*x*y-4*y^2)-(x^2-8*x*y+4*y^2)*y'=0,x,y) returned ‘q’ in AMS 2.05	Closed	
17	Integration with approximate limits [Nevin McChesney]	Open	
18	Integrate(sqrt(a*x+b)^n),x) returns incorrect results for varying values of {a,b,n} in Exact/Approx→Auto|Exact [Gary Wardall, Damien Cassou]; similar problems with Integrate(1/sqrt(a*x+b)^n),x) with –10<n<10 Example: Integrate(sqrt(7x+4)^3,x)	Closed	
19	AMS does not query OO_APP_CAN_DELETE for installed Flash apps when Mem→Reset→All is used, causing a crash [Greg Dietsche]	Closed	
20	Low memory issues When the V200's memory is nearly full (say, less than 800 bytes left), the Catalog does not come up when [2nd][CATALOG] is pressed, the Var-Link screen does not have the menubar, and the buttons are missing in some dialogs. There was also a bug in AMS versions prior to 2.09 that could cause apps with menus to crash in low-RAM conditions.	Open	

#	Short Description	Status	Notes
21	x<-sqrt(2) or x>sqrt(2) and similar expressions incorrectly return true [Fabrizio]	Open	Priority1; FIXED AMS3
22	Integrate(Integrate(Integrate(r,z,r^2,r*cos(t)+r*sin(t)),r,0,sin(t)+cos(t)),t,-pi/4,3*pi/4) returns incorrect result in Complex→Rectangular [Scott Campbell]; ok with nInt()	Open	AMS3
23	nSolve returns result outside specified range [David Dannemiller]; is Doug's bug from tip 11.12 similar?	?	
24	cSolve(il1=-.01*vy*i and -(v1-vy)-.1*vy*i=0 and 3*v1/20-vx/20-vy/10+2.*v1*i=0 and v1-vx+20=0, {vx,v1,vy,il1}) does not return results in Exact/Approx→Auto [Roberto Perez-Franco]	Closed	
25	Address Errors when mixing local variables with instructions [Samuel Stearley]	Open	
26	Σ([1,2,3;4,5,6],i,1,2) gives Dimension error [fabrizio]	Open	AMS3
27	Results involving sin(infinity) – sin(infinity) appears to represent the interval [-1,1] Substituting y=0 into result from expand(sin(x+y*i)) in Complex→Polar ["Artraze"] Integrate(1/(a+b*cos(x)),x,0,pi)	NAB?	
28	Definite Integrate returns incorrect results for some divergent integrals Integrate(tan(x),x,0,2pi) used to return zero – fixed [B.A. Baracus] Integrate(arctan(x)/x,x,0,infinity) used to return finite result – fixed Integrate(sin(x)^3/cos(x)^2,x,0,pi) used to return –4 – fixed Integrate(tan(x)*tanh(x),x,0,3) used to return finite result – fixed	Closed?	
29	Expression comparison incorrectly returns false for (e^(2pi/9*i))^3 = e^(2pi/3*i) [Scott Noveck] (because of limited precision)	Open	AMS3
30	Solve(x^2+3,x=2) incorrectly returns a solution when no real solution exists	Closed	
31	sqrt(50 + 1E-10*i) returns zero on the TI-92	Closed	
32	Status area not refreshed when running ClrHome from within a kbdprgm	Open	FIXED?
33	Crash when sending a list with more than 127 elements using Send	Closed	
34	e^(35*i) returns incorrect result in Angle→Degree , Complex→Polar, Exact/Approx→Approx	Closed	
35	Archived functions return wrong results in AMS 2.01-2.03 [Kevin Kofler] The following returns amsbug(xa(x)), while the correct result should be xd(xa(x)): Define aaaa(x)=xa(x): Define aaab(x)=amsbug(x): Define aaac(x)=xd(x) Archive aaaa,aaab,aaac aaac(aaaa(x))	Closed	
36	Archiving untokenized program gives Protected Memory Violation error on AMS 2.04	Closed	

#	Short Description	Status	Notes
37	AMS does not differentiate between (a=b and c) and (a=(b and c)) Type "a=(b and c)" into the history, then recall it to the author line by pressing [Enter]	Closed	
38	Exec "" crashes with an Illegal Instruction error	Closed	
39	rotate("") crashes for AMS versions before 1.05	Closed	
40	Evaluating “Return ***i***“ returns “English(1,0)” (similarly for “Return 1-***i***“)	Closed	
41	Differentiation and integration fail with part() [“ES”] Example: d(part(e^(2t)*sin(t),2),t) incorrectly returns zero	Open	AMS3
42	Using Δlist() in the column header of a data variable causes Internal Error [Eric Kobrin]; fixed in 2.05	Closed	
43	Executing archived program that contains the Stop instruction using expr() locks up calculator [Doug] (now returns stopit() instead of Done; also, now you cannot Unarchive the program from Var-Link!)	Open	
44	Indirection fails with local variables [Martin Daveluy] Example: NewFold test: 123→test\n: Define testtype(n)=Func:getType(#n):EndFunc: testtype("test\n") incorrectly returns “NONE”	Open	AMS3
45	exp►list fails with solve()/cSolve() in user functions (Appears to be identical to #46)	?	
46	exp►list fails to evaluate its second argument [Doug] Example: {x,y}→vars: exp►list(x=0 and y=1 or x=1 and y=0, vars) returns an empty list	Open	AMS3
47	Error thrown from a Flash app is displayed as "unknown error code" [Greg Dietsche]; AMS 2.05 and lower	Closed	
48	New AMS 2.07/2.08 co-trig functions give internal errors for approximate input in degree mode	Closed	
49	New AMS 2.07/2.08 co-trig functions don't work with matrix arguments	Open	AMS3
50	The event loop can delete the twin symbol of a running program , causing problems with twin symbols when displaying Catalog or deleting the twin using SymDel/SymDelTwin [Samuel Stearley]	Open	
51	A temporary low-memory condition can occur after running an archived program that uses the event loop and modifies the VAT; the memory is freed upon running the next archived program ["Pollux"]	Open	
52	On AMS 1.xx, if you throw an error from a program, the program's handle is not unlocked, and all following attempts to execute the program will fail with "Invalid Program Reference"	Closed	
53	OSContrastUp and OSContrastDn destroy the contents of registers d3 and d4, which they are not allowed to do [Patrick Davidson?]	?	
54	When using BitmapPut with the A_REVERSE attribute and an x-coordinate which is not a multiple of 8, you get black vertical bars covering part of the inverted picture [Kevin Kofler & Julien RF]	Open	

#	Short Description	Status	Notes
55	ROM call stricmp always returns a negative value if its first argument contains characters above 127 (i.e. extended/international characters) [Sebastian Reichelt & Zeljko Juric]; AMS 2.00-2.03	Closed	
56	solve(x+y>2,{x,y}) gives misleading error message “Argument must be an expression”	Open	AMS3
57	solve(ln(x)+ln(y)=ln(x*y),{x,y}) gives misleading error message “Argument mismatch”	Open	AMS3
58	Trivial integral Integrate((1-x)^(a+1),x)|a>0 returns unevaluated, should return -(1-x)^(a+2)/(a+2) (a simple change of variable gives Integrate(-u^(a+1),u), which does evaluate) [Andreas Schmidt]	Open	AMS3
59	Regression: u=sin(x)|u=u(x,y) now gives “Error: Constraint expression invalid” instead of returning u(x,y)=sin(x)	Open	AMS3
60	Polynomial root finder app gives non-real results for (x+a)^2 where a = -4, -3, -2, -1, 1, 2, 3, or 4	Open	
61	Evaluating exact(0.5*10^-16) in a Base other than DEC incorrectly returns 1/3749838848 (exact(0.5E-16) correctly returns 1/20000000000000000)	Open	AMS3
62	ROM call push_poly_deg_in_var_or_kernel(***i****x,x) returns zero for internally-simplified arguments (but correctly returns 1 for arguments in external form)	Open	
63	Integrate(abs(abs(x)-3),x,-1,10) fails to evaluate but works if you break up the integration region: (-1,1) and (1,10) [Neal Newby?]	Open	FIXED AMS3
64	diag({}) gives an Internal Error	Open	FIXED AMS3
65	ROM calls BN_powerMod and BN_prodMod crash for zero modulus	Open	
66	On HW2 calculators, the value passed to OSInitBetweenKeyDelay is modified [Greg Dietsche]	Open	
67	Pressing [2nd][Catalog], then within a second later pressing [2nd][Off], the calc will turn off then back on [Samuel]	Open	FIXED?
68	Statistics app gives Domain Error when computing binomial CDF with number of trials > 999	Closed	
69	On TI-89, pressing [Diamond][(][Alpha][ARROW_KEY] gives a greek character [Samuel]	Open	AMS3
70	AMS doesn't expand (2(n+1))! [Kevin]	Open	
71	ROM call is_never0 incorrectly returns false for 0^(1+***i***), which is zero (input internally-simplified as required) NEED TO DOUBLE-CHECK	Open	
72	Σ(*e*^(***i****y),y,0,x) returns “Error: Memory” in Complex→Polar mode [Bernard Parisse]	Closed	
73	*e*^(-10^1000) gives warning about overflow replaced by an infinity, but *e*^(-10^10000) does not	Open	AMS3
74	sin(10^613*pi) and sin(10^615*pi) return zero and unevaluated respectively (which are ok), but sin(10^614*pi) gives an Overflow error	Open	AMS3
75	solve(7.3E-18=4*x^3/(0.1-2*x)^2,x) gives incorrect result x=0 [Larry Fasnacht]; a possible workaround is to multiply both sides by (0.1-2*x)^2	Open	AMS3
76	taylor(tanh(tan(x))-tan(tanh(x)),x,7) takes a long time (or hangs) [Timité Hassan]	Open	

#	Short Description	Status	Notes
77	taylor((1+x)^(sin(x)),x,4,0) takes about 80 seconds [Lionel Debroux]	Open	
78	Sum(1/(2n)!,n,1,infinity) gives wrong answer	Closed	
79	Limit(-(x^2+2x+2)*e^(-x),x,infinity) fails when the complex mode is not set to Real [Mads Soendergaard]	Open	AMS3
80	Cannot integrate sqrt(1-1/x^2) or sqrt(1+1/x^2) [Mads Soendergaard]	Open	AMS3
81	The symbolic integrator can no longer do the definite integral of sqrt(cos(x)+1) over [0,2pi] in AMS 2.09 [Markus Schenkel]; a possible workaround is to take limits with the indefinite integral	Open	AMS3
82	(15*sqrt(3)+26)^(1/3)=2+sqrt(3) incorrectly returns false (evaluating using approx() correctly gives true)	Open	AMS3
83	x=x returns true, but x≠x does not return false	Open	AMS3
84	cSolve() incorrectly returns false with some "generalized" polynomials such as x^pi+1 or x^ln(2)+1	Open	AMS3
85	solve(a=n*x^n and n*x^n=2n*x^n, x) gives an Internal Error (or an out-of-memory error if the sides of the first equation are reversed)	Open	AMS3
86	Odd character appears at the end of unit name for user-defined unit in Units dialog when variable name is 8 characters (e.g. 3_yd/_yr^2 → _tiefgtr) [Aaron Sheldon]	Open	AMS3
87	Bringing up Var-Link from the copyright screen ([F5], [Diamond][(]) and canceling it leaves part of the top of the Var-Link dialog on the screen (refresh issue) [Omicron]	Open	AMS3
88	With Exact/Approx set to Auto or Approx, display digits set to Fix 10 (or anything above Fix 2), exponential format set to Engineering, and the Data/Matrix Editor cell width set to the default of 6, the last two rows of the matrix [23.0;57.0;125.0;225.0] are shown as "100.E0" and "200.E0" in the Data/Matrix Editor [Doug]	Open	AMS3
89	Values of several predefined physical constants are out of date [??]; new values are at http://pdg.lbl.gov/2004/reviews/consrpp.pdf	Open	AMS3
90	Redraw issue when pressing Trace button within about 0.2 seconds after entering graphing application [Lionel]	Open	AMS3
91	Floor(e^(pi*sqrt(163))) incorrectly gives 262537412641150000 instead of 262537412640768743	Open	AMS3
92	Going to the mode screen from the apps desktop and saving changes by pressing Enter sends Enter keypress to apps desktop [Samuel]	Open	AMS3
93	limit(abs(ln(abs(csc(1/z)/z))/ln(abs(1/z))),z,0) incorrectly returns 1 when the limit does not exist	Open	
94	part(x[1,2],0) returns "English"	Open	
95	solve(d((x^(1/x))^(x^(1/x)),x)=0,x) gives result with nonsensical expression undef>0 (in this case, ‘undef’ represents ±∞) [Doug Burkett]	Open	
96	taylor(1/x,x,n,-infinity) returns n*undef for positive integer n, zero for n=0 (expected result is 1/x)	Open	AMS3
97	cSolve(abs(-5-x/5 + abs(-4-x/4 + abs(-3-x/3 + abs(-1-x/2)))) = 0, x) gives Domain Error	Open	AMS3

#	Short Description	Status	Notes
98	Solve(2^x=x^2,x) returned three solutions in AMS 2.09, now returns two [Workaround: solve(ln(2^x=x^2),x)] [Ken]	New	
99	Integrate((x-a)*e^(-(x-a)^2),x) should be doable, since it is of the form c*f'(x)*e^(f(x))	Open	AMS3
100	Integrate(sqrt((1+x)/(1-x)),x) cannot rationalize the numerator [Oscar Lanzi III] NOTE: I don't really understand this…	Open	

1. Random function graphing in 3D causes crash in subsequent operations
This is a bug that crashes the calculator. To reproduce the bug:

- From the MODE screen, choose 3D graphing mode.
- Go to the Y= editor and type rand()
- Go to the GRAPH screen.
- Zoom In once from the center.
- Go to the FORMAT dialog box.
- From the STYLE menu, choose CONTOUR LEVELS.
- Wait until the calculator is done graphing the contour levels.
- Go to the HOME screen.
- Try to evaluate 5+5 or something similar. The calculator crashes ("Address Error").

(*Credit to "Yes"*)

2. Dialog box overloading overwrites buttons
This bug occurs on a TI-92 Plus with AMS v2.05. While the first part does not occur on a TI-89 (a "Dimension" error is thrown instead), the second part does occur.
It is possible to overload dialog boxes so that the OK and ESC buttons are covered or partially covered, although the ENTER/ESC key-presses are recognized.

- In a program: use eight (8) "Request" commands in a "Dialog...EndDlog" block in the program. When the dialog box is displayed, the last "Request" line and the OK/ESC buttons overlap.
- In the CATALOG for User-Defined functions/programs: within a program/function, on the line right after the "Prgm" or "Func" line, type the comment character ([2nd][x] on the TI-92 Plus), then type thirteen (13) lines of comments, using the line feed character (char(1Ø)) to separate the lines. When you go to the CATALOG and view the program/function help, the 12 th and 13 th lines will overwrite the OK/ESC buttons.

(*Credit to Chadd Easterday*)

3. Wrong answer when integrating cosh() symbolically

In AUTO mode, when integrating -121.62*cosh(x/121.62)+721.62 dx from -300 to 300, if the calculation is done numerically (by pressing DIAMOND-ENTER), the TI-89/92+ returns 259932.637824, the correct answer. However, when the same calculation is done symbolically (by just pressing ENTER), the calculator returns 267564., which is an incorrect result.

(*Credit to Greg Kelly*)

5. Text Editor refresh issue when opening saved copy of locked or archived text variable
Here is a bug in the Text Editor:

- Open a locked or archived text variable in the text editor
- Save a copy of it, and then open it without exiting the text editor
- Under the Command menu (F2), the first four items are disabled
- Quit the text editor and then switch right back to it
- Check the menus – they will now be enabled.

Here is a related behavior:

- Open a locked or archived text variable in the text editor
- Exit the text editor
- Unarchive the text variable and re-enter the text editor using [2nd][APPS]
- Under the Command menu (F2), the first four items are disabled
- Quit the text editor and then switch right back to it
- Check the menus – they will now be enabled.

I think both of these are caused by the same bug.

(*Credit to Brian Maxwell*)

6. Catalog shows incorrect help text when trying to show help string for a routine that does not have one
Since the introduction of user-function/program help in AMS version 2.03, I have noticed that if you have some functions/programs that don't have any comment (help text), if you navigate to those functions/programs in the CATALOG, many of them often show the help text of some other functions/programs. One possible workaround is to have help-text in all user-defined functions/programs.

7. Custom menu bug

At first, I was unable to reproduce this bug. Doug Burkett pointed out to me that it can be reproduced if one uses long titles for F1-F4. The following is from what Doug sent me (thanks Doug!). Try this to duplicate the bug:

(a) Use this program to set the custom menu:

```
custtest()
Prgm
Custom
title "F1_a1234":item "item1":item "item2"
title "F2_b1234":item "item1":item "item2"
title "F3_c1234":item "item1":item "item2"
title "F4_d1234":item "item1":item "item2"
title "F5_1234":item "item1":item "item2"
title "F6_1234":item "item1":item "item2"
title "F7_1234":item "item1":item "item2"
title "F8_1234":item "item1":item "item2"
EndCustm
CustmOn
EndPrgm
```

(b) Run the program

(c) Enter the program editor. The usual program editor toolbar is shown.

(d) Push [CUSTOM] to display the custom menu. Tabs for F1-F4 are shown, and the F5 tab is the [>] (next) tab.

(e) Push F6. The program mode toolbar is shown again!

(f) Push F1. The items for the custom menu are shown, but the titles for the program editor remain.

(g) Push [RIGHT-ARROW]. Again the custom menu items are shown, but the region of the custom menu tab is in inverse.

10. Solve( ) returns incorrect result with large polynomial coefficients

`solve(x^3+4.217*10^17*x^2-3.981*10^20*x-6.494*10^22=0,x)` gives three results, one of which (`x=0.`) is incorrect.

11. Integrate(1/(1+a*cos(x)),x,0,2pi) incorrectly returns zero

There is a bug in the symbolic integration:

`∫(1/(1+a*cos(x)),x,0,2*π)`

gives zero (with or without the condition `a>0 and a<1`); however, when you have:
`∫(1/(1+1/2*cos(x)),x,0,2*π)`
you get: `4*π/√(3)`
The correct answer is: `2*π/√((1+a)*(1-a))`

12. Incorrect function graph for nested derivatives
When graphing nested derivatives like `d(d(x^3,x),x)`, the calculator draws an incorrect graph (in this case, instead of graphing `6x`, it graphs a horizontal line).

(*Credit to "pilmat"*)

13. ROM call sf_width returns wrong width for the characters 'm', 'M', 'w', and 'W'
Like most ROM call issues, this is an internal issue, and users don't need to worry about this, although it may be useful for developers to keep this in mind, especially when dealing with display of text with the small font.

(*Credit to Thomas Nussbaumer*)

14. Loss of precision in Statistics app
There is a loss of precision in some of the Statistics app routines. For example:
`tistat.normcdf(2,100)` returns `.02275006214`,
while integrating directly returns the correct answer:
`∫(tistat.normpdf(x),x,2,100)` returns `.0227501319482`
`TIStat.normcdf()` returns the result very quickly, though.
TI has probably done this on purpose so that results from the Statistics app match the inaccurate results returned by the TI-83 Plus; however, I don't think it is a good design decision.

(*Credit to Phil*)

15. Solve() returns general result without a necessary condition
Incorrect generalization: `solve(tan(x-1)/(x-1)=0,x)` gives `x=@n1*π+1` as the answer, but `x=1` is not a solution.

23. nSolve returns result outside specified range
First, here are two required functions r and p:

```
r(tau,a,b,c)
Func
norm(p(tau,a,b,c))
EndFunc

p(tau,a,b,c)
Func
[[a*(-2*sin(tau)-3*b*tau+c)][a*(cos(tau)+2*b)]]
EndFunc
```

Now the problem. This first function produces an incorrect result:

```
toy()
Func
Local a,b,c,tl
1.1327634981211->a
0.281->b
2.6483626069762->c
4.6244787846998->tl
Return nSolve(r(tau,a,b,c)=1,tau)|tl<=tau and tau<1.6*pi
EndFunc
```

The result (1.44605) is incorrect because it is outside the constraint range specified.

This version of the function produces the correct result (4.83713):

```
toy()
Func
```

```
Local a,b,c,tl
1.1327634981211->a
.281->b
2.6483626069762->c
4.6244787846998->tl
Return nSolve(r(tau,a,b,c)=1,tau)|4.6244787846998<=tau and tau<1.6*pi
EndFunc
```

The difference between the two versions is substitution of a number for ‘tl’ in the first constraint. ‘tl’ is not a user defined variable.

Reversing the direction of the first constraint also produces the correct result:

```
toy()
Func
Local a,b,c,tl
1.1327634981211->a
0.281->b
2.6483626069762->c
4.6244787846998->tl
Return nSolve(r(tau,a,b,c)=1,tau)|tau>=tl and tau<1.6*pi
EndFunc
```

I have a TI-89, HW1, running AMS 2.05.

(*Credit to David Dannemiller*)

25. Address Errors when mixing local variables with instructions
The following simple program gives an Address Error:

```
Prgm
Local x
Blddata x
```

EndPrgm

The crash occurs whether or not ‘x’ is initialized.

Here is another example of a program that gives an Address Error:

```
Prgm
Local token
Fill 0,token
EndPrgm
```

If you initialize ‘token’ to zero (0->token), you get a Data Type error.

If you graph a simple function like y1(x)=7 and then execute the following program, you get two Address Errors:

```
Prgm
Local token
{1}->token
BldData token
EndPrgm
```

(*Credit to Samuel Stearley*)

70. AMS doesn't expand (2(n+1))!

Comment from Kevin:
“The issue is not that the (2n+2)(2n+1) factors are not peeled off (which would not be a problem per se), but that they are not peeled off even when dividing by (2n)!, leaving an unsimplified expression behind.”

(*Credit to Kevin Kofler*)

91. Redraw issue when pressing Trace button within about 0.2 seconds after entering graphing application

This issue is hard to reproduce on TI-92 Plus or Voyage 200 calculators due to the different keyboard layout.

(a) Define any function (e.g. y1(x)=x)
(b) Draw the function in any window (e.g. ZoomStd)
(c) Enter trace mode (F3)
(d) Quit the graphing application
(e) Reenter the graphing application (♦ + F3 on TI-89), pressing F3 twice in a very short while (< 0.2 sec) to enter trace mode.

The grapher didn't have time to redraw its internal bitmap (possibly it is sent and handles a CM_KEYPRESS event before redrawing) to the screen, so you can see a cursor but no curves. Moving the cursor redraws the bitmap.

(*Credit to Lionel Debroux*)

To do:

Add bugs from Bill S, Chus, Lionel Debroux, Miguel Suarez, and Samuel Stearley.
Add screenshots for as many issues as possible.
Add a zip file with code to help reproduce issues.
Try to dig up an old bug for computations in degrees, for which I provided screenshots to TI.