MORE TIPS AND TRICKS FOR THE TI-84 PLUS FAMILY
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Happy π Day !

1. Calculator should be fully charged or with fresh batteries on exam day.
   (FnInt will devour battery power gluttonously.)
2. To speed up graphing, press MODE > Simultaneous graphing
3. <u>84CE Only</u>: To speed up graphing, Press 2nd ZOOM [Format] and select
   Off for Detect Asymptotes.
4. Use the shortcut menus ALPHA f1 through f4.
5. <u>84CE Only</u>: ALPHA X gives the fraction template.
6. Common error: If a graph of a trig function is behaving spooky,
   make sure your mode is correct.
7. Use the table settings or the context to get the window settings
   Xmin, Xmax, Ymin Ymax.
8. Any contents of Y1 through Y0 can be copied elsewhere by pressing 2nd RCL Y1.
9. On Home Screen press the up arrow to select previous entries.
   Then press ENTER to copy them to the command line for editing.
   On an entry line, 2nd ▷ goes to the end and 2nd ◁ goes to the front.
   On TRACE, 2nd ▷ or 2nd ◁ moves left or right every 5 steps.
10. To graph every other 8 pixels i.e., especially if graphing FnInt,
    press WINDOW and make Xres = 8.
    You can do this with any function for that matter.
    The graph will have low resolution but it does not affect the 2nd CALC answers (Zero, Intersect, etc.)
    Alert to teachers: The TI-Smartview Emulator runs at a much faster speed than the calculator.
11. Don't ever keep anything stored in X. It is refreshed every time you press GRAPH and will be lost.
   Use X STO ALPHA A

    X→A

    6.203564377

12. When using 2nd CALC (Zero, Intersect, Max, Min) you need only care that *x* value shows in the
    window. No need to fuss about Ymin or Ymax.
13. When using 2nd CALC Intersect you can type in the Guess. Similarly for Zero, Max, Min, ∫f(x)dx,
    you can type in Left Bound, Right Bound, etc. Usually just press ENTER for the Guess.
14. The last entry can be copied anywhere (in particular, the Y= menu) by pressing 2nd ENTER.
15. Press ON to abort any process.
    Pressing ENTER will pause it and ENTER again will resume it.
16. When using a table to evaluate FnInt, press 2nd WINDOW [TBLSET].
    It is helpful to deselect the FnInt funtion in Y= first,
    then delete any values of *x* in the table, then select the FnInt function.
    The larger *x*, the longer the FnInt will take to evaluate.
17. Do all calculator models in a classroom have the latest operating system?
    Press 2nd[MEM] (above ⊞ key), then select **1:About** to see your OS version.
    The latest OS releases are: TI-84 Plus CE: **5.4.0**   TI-84 Plus: **2.55MP**
    For more tips see our handout *How to Update Your TI-84 Plus CE Classroom Solution*.
   To update your TI-84 Plus to 2.55MP, contact 1-800-TI-CARES or John or Stuart for help.
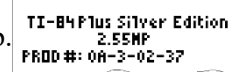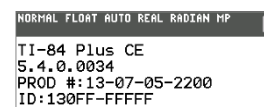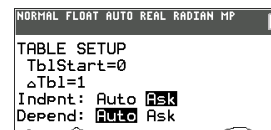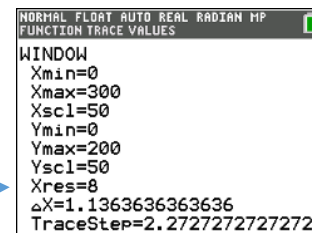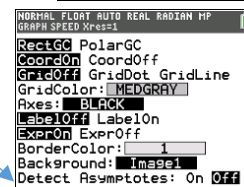
18. Common error: When you press GRAPH if you see INVALID DIM, deselect a Plot.
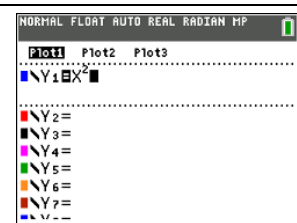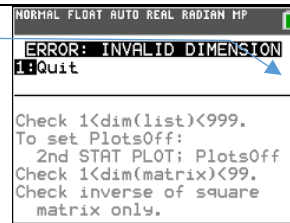
19. Common Error: Negation and Subtraction symbols do not look alike or act alike! The negation symbol is shorter and higher than the subtraction symbol.
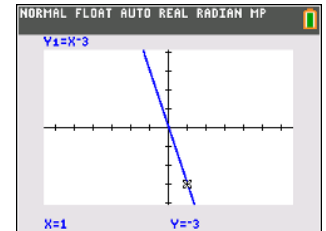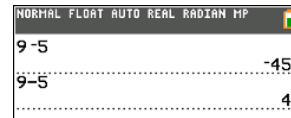
20. Composition of functions vs multiplication of functions. Y1(X) means *f(x)*. If you want Y1 times (x-2), then type Y1*(x-2)
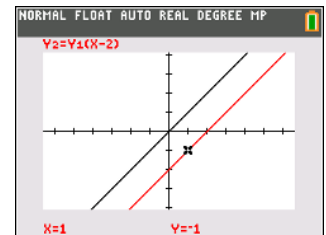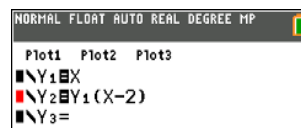
21. Trace with GRAPH-TABLE split screen enabled (in MODE menu) to connect numbers, visuals, and expressions (an "algebra big idea") all at once.
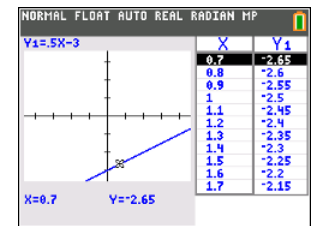
22. ZoomIn, ZoomOut, and ZoomDecimal are too limiting! Create your own "friendly windows" (where you can choose "nice" values for tracestep and see important parts of your function. This requires understanding how a function is plotted across the screen and that there are 132 tracestep increments between Xmin and Xmax.

$$TraceStep = \frac{Xmax - Xmin}{132}$$
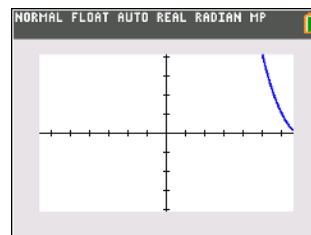
Y1=(X-7)² in
ZoomDecimal Window
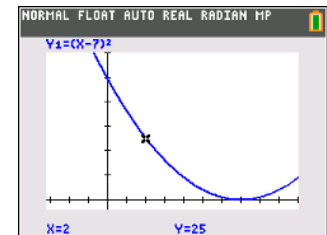
Y1=(X-7)² in
[-3.2,10,1] by [-4.1,60,10]
[Xmin,Xmax,Xscl] by [Ymin,Ymax,Yscl]

23. In Polar MODE, turn circles into polygons by manipulating θ-step (in the WINDOW menu). Select Polar Graphing and Degrees in the MODE menu. Select Polar coordinates in the FORMAT menu.