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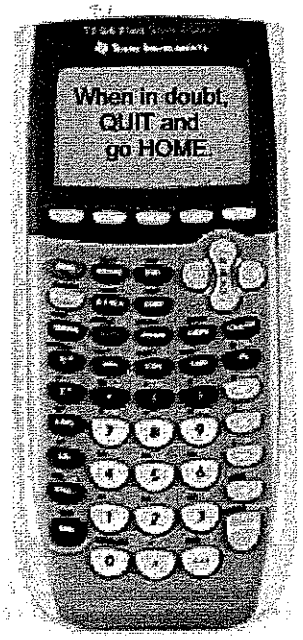
TI-83+/84+ Quick Reference Sheet

Algebra 2 Level



Calculator ID #:
Choose 2nd MEM,
#1 About
ID****-****-****

To Graph Lines (functions):

1. Enter equation in Y=.
2. Use ZOOM #6 (will give standard 10 x 10 window).
3. Use GRAPH to display graph.
4. Use WINDOW (to create your own screen settings).
5. Use TRACE to move spider on graph – arrow up/down between graphs

To Find Intersection Pts:

1. Graph both equations.
2. Use CALC menu (2nd TRACE)
   Choose #5 Intersect
3. Move near the intersect location.
4. Simply press <ENTER> 3 times to reveal the answer.

If you are looking for more than one intersection point, you must repeat this process.

Logs and Exponents:

1. The LOG key is log base 10.
2. To enter: $\log_4 64$ use $\frac{\log 64}{\log 4}$
2. $27^{\frac{1}{3}}$ is 27^(1/3) remember ( )

Summations: $\sum_{k=2}^{7}(2k+2)$

Enter sum(seq(2x+2, x, 2, 7, 1)

- 2nd STAT(LIST) – MATH - #5 sum
- 2nd STAT(LIST) – OPS - #5 seq

The format for **seq:** ***expression, variable, starting value, ending value, increment.***

To see $\sqrt{-25} = 5i$, use $a + bi$ mode.

To Get Statistical Information:

1. Place data in Lists: STAT → EDIT
2. Engage 1-Variable Statistics: STAT → CALC #1 1-VAR STATS
3. On Home Screen indicate list containing the data: 1-VAR STATS L_1

$\bar{X}$ = mean
Sx = the sample standard deviation
σ_x = the population standard deviation
n = the sample size (# of pieces of data)
Q_1 = data at the first quartile
med = data at the median (second quartile)
Q_3 = data at the third quartile

Check Inverse:

Enter your algebraic inverse in Y1. Graph. Use DRAW #8DrawInv to verify it is correct.

To Get Scatter Plots and Regressions

(Linear, Quadratic, Exponential, Power, etc):

1. Place data in Lists: STAT → EDIT
2. Graph scatter plot: STAT PLOT #1 <ENTER> Choose ON. Choose the symbol for scatter plot, choose L_1 , L_2, choose mark
3. To graph, choose: ZOOM #9
4. To get regression equation: STAT → CALC #4 Lin Reg($ax+b$)
   (or whichever regression is needed)
5. On Home Screen: LinReg($ax+b$) L_1 , L_2 , Y_1
6. to see graph – GRAPH

To get Y_1 on the calculator screen:
VARS → Y-VARS Choose FUNCTION, Y_1

Functions:

$Y_1 = f(x)$ *and* $Y_2 = g(x)$

$(f+g)(x) \rightarrow Y_3 = Y_1 + Y_2$
$(f-g)(x) \rightarrow Y_3 = Y_1 - Y_2$
$(f \cdot g)(x) \rightarrow Y_3 = Y_1 Y_2$
$(f/g)(x) \rightarrow Y_3 = Y_1 / Y_2$

Composition:
$(f \circ g)(x) \rightarrow Y_3 = Y_1(Y_2)$

USING THE GRAPHING CALCULATOR

I.Getting Started:

1.Hit *MODE* button and be sure that everything is highlighted to the left.

2.Hit *ZOOM* button and choose: 6.ZStandard (this will use the standard graph window of -10<x<10 and -10<y<10…like the one on the wall in my room)

3.Hit *Y=* button and delete out any entries (be sure to scroll down past Y7 because there are 3 more 'off' the screen and hooligans like to hide things in there to mess you up…)

4.Hit 2^{ND} button and then *Y=* button and choose 4.PlotsOff (Be sure to hit enter twice!!! Until you see 'Done'.

5.Hit 2^{nd} button and then *WINDOW* button for *TBLSET* and make sure Indpnt and Depend are both set to AUTO. (You most likely want ΔTbl to = 1…this is what the x-values of your T-chart will count by…)

6.Hit 2^{ND} button and then *ZOOM* button and be sure that everything is highlighted to the left.

II.Entering Equations:

1.All equations must be solved for Y or they *CANNOT* be entered. ****So make sure it is written as Y=…..****

2.Rule of thumb for fractions is to keep them in a set of parentheses so if for example your equation is $Y=-\frac{2}{3}X+6$, it will be entered as $Y=(-\frac{2}{3})X+6$. This is because the calculator actually understands the order of operations so you must remember that. *For a basic computation problem like:* $\frac{5-2}{-3+4}$ *, you must enter it as:* (5-2)/(-3+4)

3.The *X button is NOT green, it is the one next to the green one: X,T,θ,n.*

4.Hit the *GRAPH* button and you can see it.(As long as it fits on the screen. If you equation has a Yintercept (b) of 50 then it would be too high up to show it so you have to adjust the *WINDOW)*

5.Hit the 2^{ND} button and then hit *GRAPH* button for *TABLE.* This will show you a list of points that exist on your graph. (You can scroll up and down with the arrows as far as you like….believe me it works, no need to test it….)