TI-83 and TI-84 Calculator Workshop Worksheet

at http://www.pvc.maricopa.edu/lsc/resources/Math/TI84Worksheet.doc

Part I
Basics

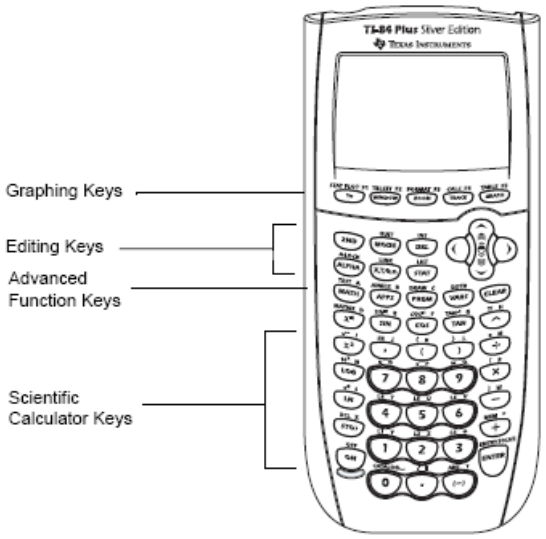
The Keyboard: The keyboard is divided into four zones

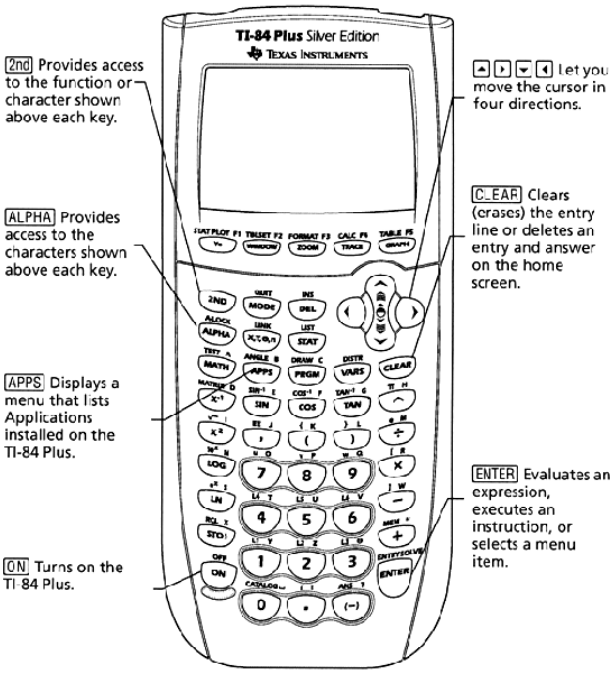
1. Scientific calculator keys
   Access the capabilities of any standard scientific calculator.

2. Advanced function keys
   Display menus that access the advance functions.

3. Editing keys
   Edit expressions and values.

4. Graphing keys
   Access the interactive graphing functions.





Part II
Basic Calculator Keys

Order of Operations

1. $5 \cdot 6 \div 15 + 2 \div 2$ 1._____

2. $5 \cdot 6 \div 15 + 2 \cdot 4^2$ 2._____

Square Roots

3. $\sqrt{\blacksquare}$ Square Root Key (accessed by 2nd, x^2) 3._____

$\sqrt{36}$ 3a._____

4. $\sqrt{-25}$ 4._____

Exponents

5. $(-35)^5$ 5._____

6. $(3.5)^{10}$ 6._____

Fractions

7. $\frac{1}{2} + \frac{1}{3}$ 7._____

8. $\frac{1}{7} + \frac{2}{5}$ 8._____

Math Function Key

9. The exponent 3 $5 \cdot 2^3$ 9._____

10. Cube Root Key $\sqrt[3]{\blacksquare}$ $\sqrt[3]{-27}$ 10._____

11. $\sqrt[3]{\frac{1}{216}}$ 11._____

12. $\sqrt[5]{32}$ 12._____

13. $\sqrt[4]{256}$ 13._____

14. $|-7 + 5|$ 14._____

Part III

Graphing Calculator Basics

To graph a linear or quadratic relationship:

1. Put the linear or quadratic equation in "y=" form.
2. The Screen: The standard window is ± 10 for both the domain and range. To set your calculator to this window automatically, select "6" under the **ZOOM** menu.

   To set the **WINDOW** (keys under the screen)
   Domain: (x) (horizontal) xmin, xmax, xscl
   Range: (y) (vertical) ymin, ymax, yscl
   Setting the **WINDOW** may be necessary to see a graph that extends beyond the screen.
3. Type in your equation in the "$\mathbf{Y_1}$=" menu on the calculator. The x-variable is found on the key "X,T,θ,n (next to "ALPHA" key)
4. Depress the **GRAPH** key on your calculator.
5. Use the **Trace** and **ARROW** keys to find values on the graph.

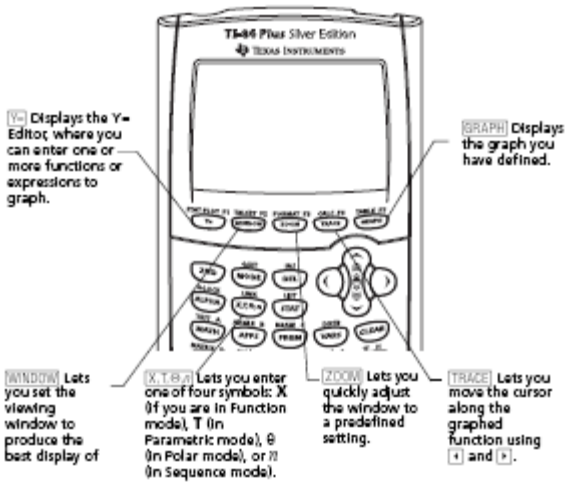
Graph:

$$y = 4$$

$$y = 3x + 1$$

$$y = -\frac{3}{5}x - 1$$

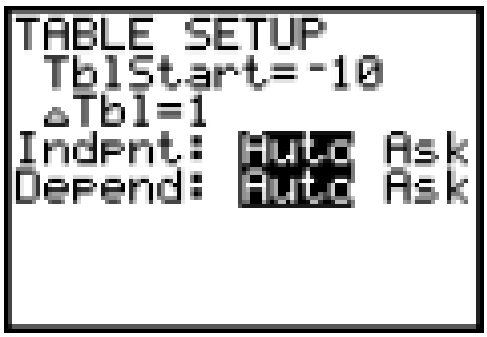
$$y = x^2 + 3x - 2$$



Part IV

Introducing Calculations on Graph

1. **TBLSET**



2. **TABLE**

X	**Y_1**
2	8

3. MINIMUM (**CALC** menu #3)

   X=-1.5000 and Y=-4.25

4. Graph

   Y_1= 5X-7
   Y_2= -X+5

5. INTERSECTION X=_____ Y=_____

6. Y INTERCEPT X=0 Y=_____

7. **FORMAT**

Part V

1. X intercepts or zeros

   $Y_1 = 5X-7$ Y=0 X=_____

   $Y_2 = -X+5$ Y=0 X=_____

2. Table Review

X	Y_1	Y_2
0	-7	5
1		
2	3	3
3		
4		
5		

3. Graph $Y_1 = -X^2 + 5X -2$

   X=1 Y=_____, X=2 Y=_____, X=3 Y=_____

   X=2.5 Y=_____, X=0 Y=_____,

4. MAXIMUM (**CALC** menu #4)

   The max value is _____ at x=_____

5. Zero's X=_____ Y=0 X=_____ Y=0

6. Graph $Y_2 = X+1$

   a. Intersection X=_____ Y=_____, X=_____ Y=_____

   b. Y intercept X=0 Y=_____

   c. Zero X=_____ Y=0

Part VI

Menus

Y=	**WINDOW**	**ZOOM**	**TRACE**	**GRAPH**
Y_1= Y_2= Y_3= Y_4= Y_5= (up to 10 funtions)	Xmin: Xmax: Xscl: Ymin: Ymax: Yscl:	1. Zbox 2. Zoom In 3. Zoom Out 4. Zdecimal 5. ZSquare 6. Zstandard 7. Ztrig 8. Zinteger 9. ZoomStat 0. ZoomFit	(Activates cursor on graph)	(Press to see equations graphed on screen)

TBLSET	**FORMAT**	**CALC**
TblStart = Δ Tbl = Indpnt: Auto Ask Depend: Auto Ask	(Graphing screen options)	1. value 2. zero 3. min 4. max 5. intrsct 6. dy/dx 7. Sf(x)dx