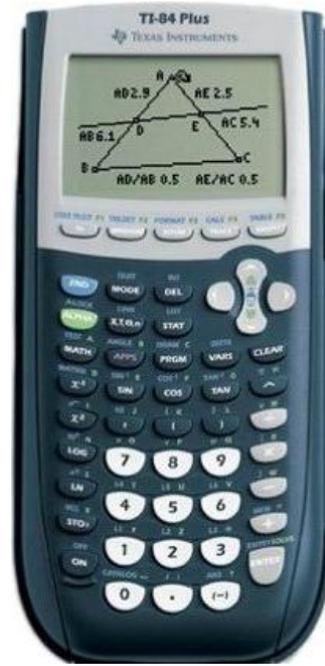


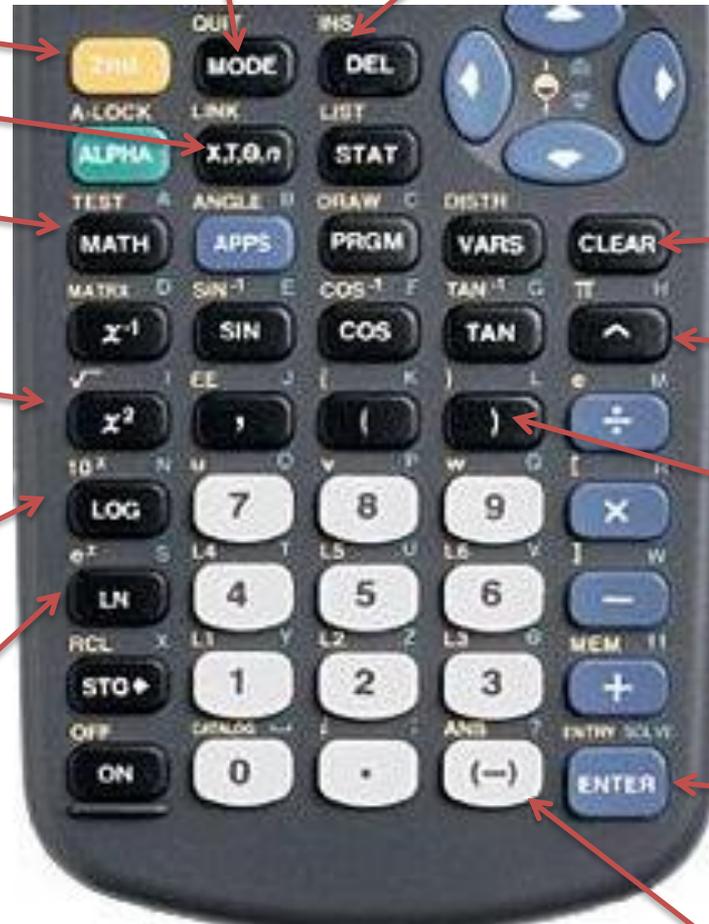
How to Use the TI 83/84



Mary Stangler
Center for Academic Success

Location of Important Items

Options in *italics* means you need to press the 2nd key first



Quit

Delete
insert

2nd

x

Math

Clear

Square
Square Roots

Carrot Key (for
exponents)

Pi

Logarithm (Log)

Parenthesis

Natural Logarithm (LN)
e[^]

Enter

Negative

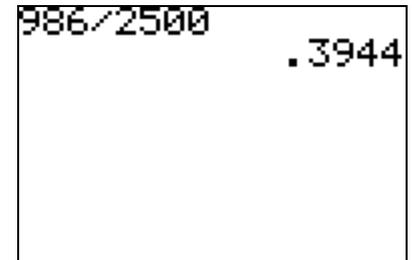
Decimal to Fraction

Scenario 1:

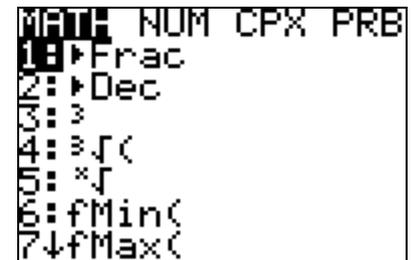
1. Type in the decimal
2. Press Math
3. Press Enter
4. Press Enter

Scenario 2:

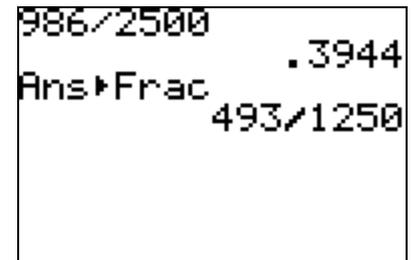
1. Your last answer was a decimal
2. Press Math
3. Press Enter
4. Press Enter



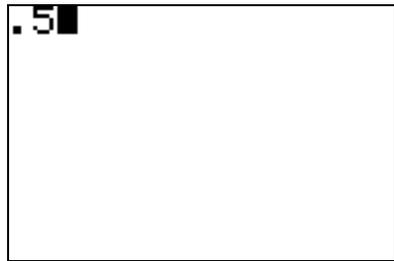
986/2500
.3944



MATH NUM CPX PRB
1 ▸ Frac
2 ▸ Dec
3
4: $\sqrt{\square}$
5: $\sqrt{\square}$
6: fMin(
7 ▾ fMax(
8



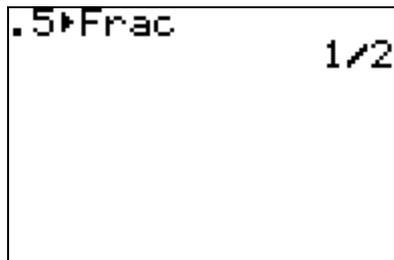
986/2500
.3944
Ans ▸ Frac
493/1250



.5



MATH NUM CPX PRB
1 ▸ Frac
2 ▸ Dec
3
4: $\sqrt{\square}$
5: $\sqrt{\square}$
6: fMin(
7 ▾ fMax(
8



.5 ▸ Frac
1/2

Division, Fractions and Exponents

- Order of Operations are followed!!
- If you have a complex fraction, where the top or the bottom has multiple parts then the top and bottom need to be in their own parenthesis.
- When using $^$ (carrot key) for exponents note that only the first that number (or variable) is an exponent.

Absolute Value

To Graph an absolute value or find the absolute value use the following steps:

1. Press Math
2. Go over to Num
3. Press Enter (or Number 1)

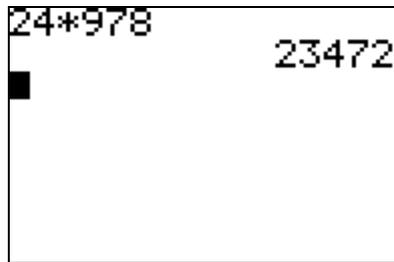
Note that Absolute Value or abs automatically comes with an open parenthesis.

```
MATH NUM CPX PRB
1 ▸ Frac
2 ▸ Dec
3
4: √(
5: *√
6: fMin(
7 ↓ fMax(
```

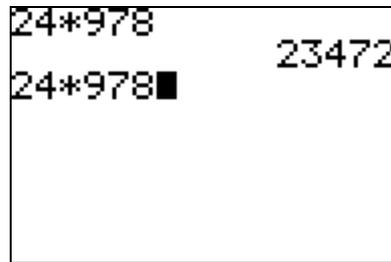
```
MATH NUM CPX PRB
1 abs(
2: round(
3: iPart(
4: fPart(
5: int(
6: min(
7 ↓ max(
```

Fixing a Mistake 1

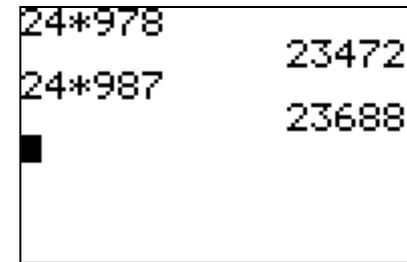
If a mistake was made in your equation and you pressed enter. Just press 2nd enter and it will reappear



24*978 23472
█



24*978 23472
24*978 █



24*978 23472
24*987 23688
█

Want know what
24*978 is but typed
in 24*987

Press 2nd Enter
(ENTRY)

Type over the
mistake or use
delete

Fixing a Mistake 2

Using Insert

If you forgot to type something in, Move the cursor over the number (or variable) that you want to be behind what your adding, then press 2nd DEL (INS) and type in what you want. Then press enter.

```
35+72-6
```

want
35+66*72-6
but entered in
35+72-6

```
35+■2-6
```

move the
cursor over
the 7

```
35+_2-6
```

Press 2nd DEL
(INS)

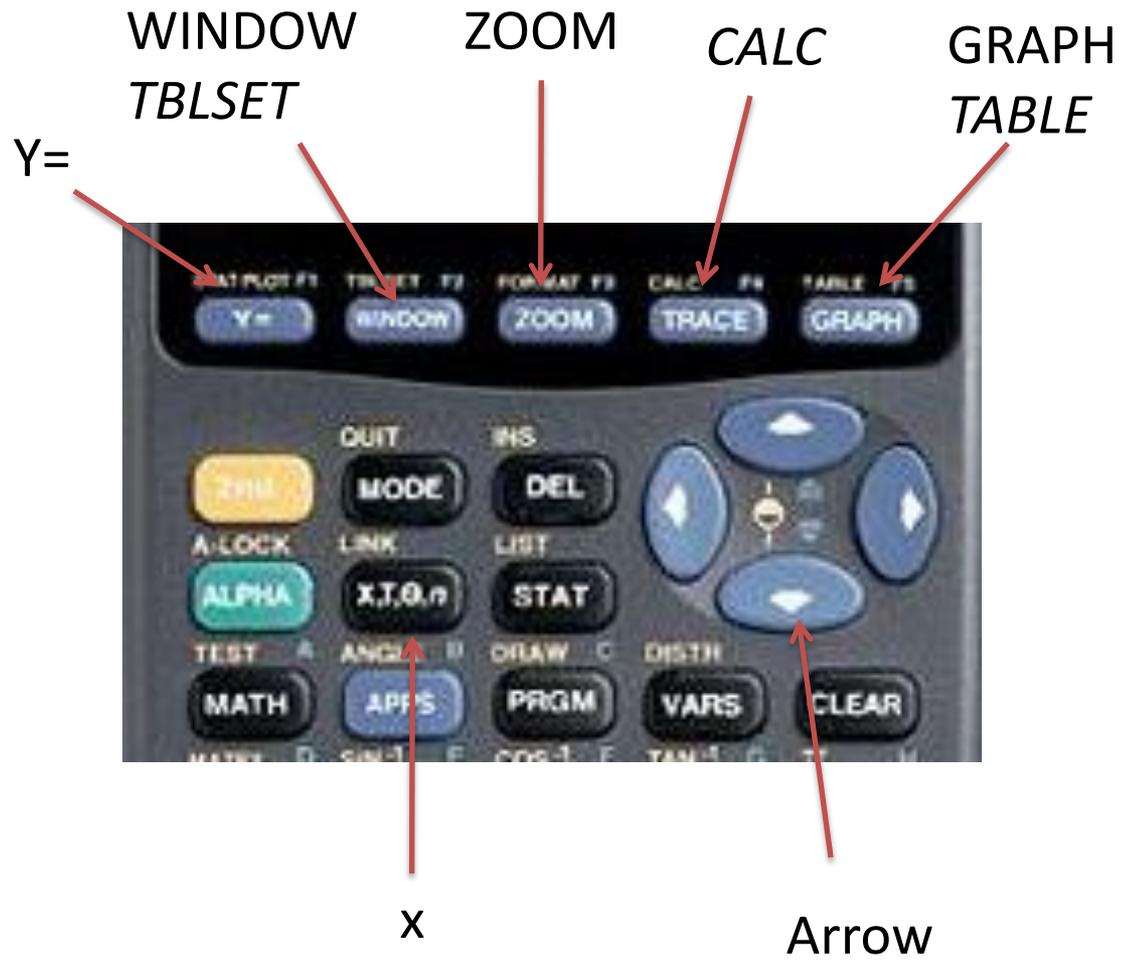
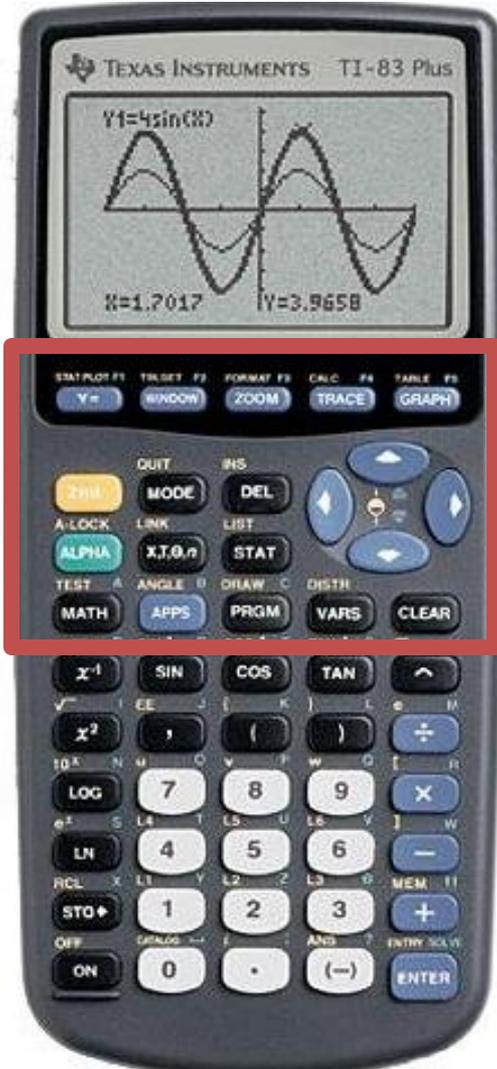
```
35+66*72-6      4781
```

type in 66*
and press
enter

Delete vs. Clear

- Delete or (DEL) is nice if you want to remove one or two things from a long line of stuff. Just move the cursor over what you want to delete then press DEL
- Clear is nice if you want to remove an entire line of stuff (or clear the home screen). Just Press Clear

Graphing Important Keys



Options in *italics* means you need to press the 2nd key first

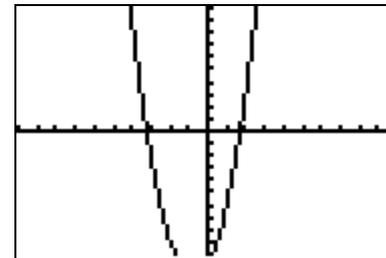
Graphing

- 1) Press $Y=$
- 2) Type in function using X, T, θ, n
- 3) Press Graph
- 4) Press Window
- 5) Adjust window
- 6) Press Graph

Note the up/down switch the cursor between lines, left right move the cursor along line

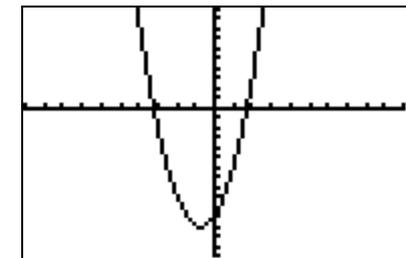
```
Plot1 Plot2 Plot3
Y1=
Y2=
Y3=
Y4=
Y5=
Y6=
Y7=
```

```
Plot1 Plot2 Plot3
Y1=2X^2+3X-11
Y2=
Y3=
Y4=
Y5=
Y6=
Y7=
```



```
WINDOW
Xmin=-10
Xmax=10
Xscl=1
Ymin=-10
Ymax=10
Yscl=1
Xres=1
```

```
WINDOW
Xmin=-10
Xmax=10
Xscl=1
Ymin=-15
Ymax=10
Yscl=1
Xres=1
```



Note on the Window

If you changed the window and want to get back to the standard window (where X_{\min} and $Y_{\min} = -10$, X_{\max} and $Y_{\max} = 10$, and X_{scl} and $Y_{\text{scl}} = 1$)

1. Press ZOOM
2. Press 6 (Zstandard)

```
ZOOM MEMORY
1: ZBox
2: Zoom In
3: Zoom Out
4: ZDecimal
5: ZSquare
6: ZStandard
7: ZTrig
```

Y-intercept

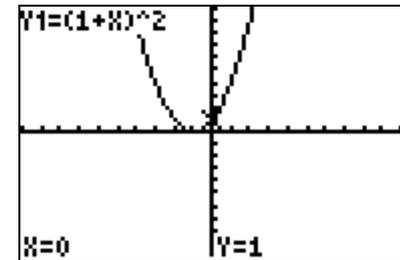
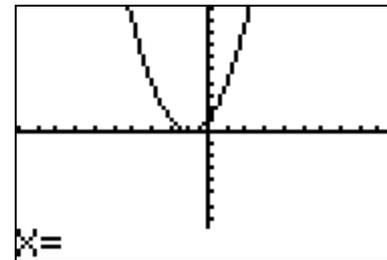
1. Graph the line
2. Press 2nd Key then Trace (the CALC option)
3. Press Enter or 1 (for Value)
4. Type in zero for the x=, then press enter
5. The Y-intercept is shown.

If there is more than one line and therefore more than one intercept use the up/down arrows to move between lines.

DO NOT USE TRACE!!!

```
Plot1 Plot2 Plot3
\Y1=(1+X)^2
\Y2=
\Y3=
\Y4=
\Y5=
\Y6=
\Y7=
```

```
CALCULATE
1:value
2:zero
3:minimum
4:maximum
5:intersect
6:dy/dx
7:∫f(x)dx
```

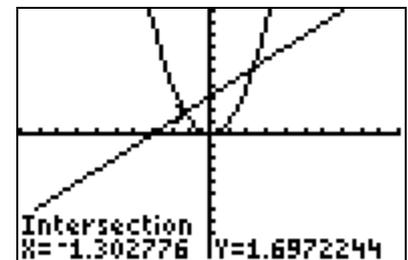
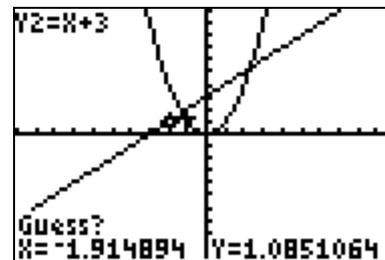
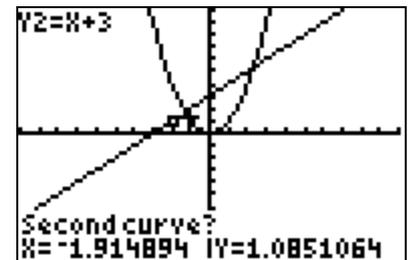
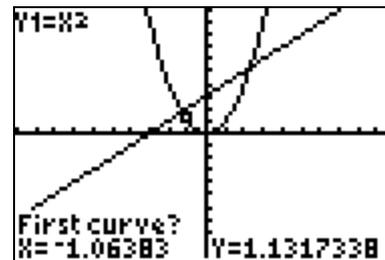
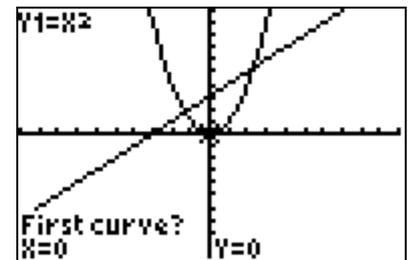
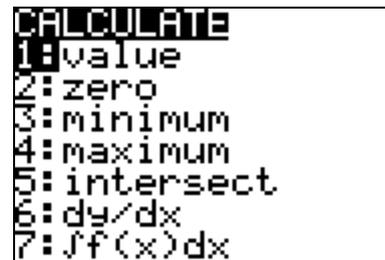
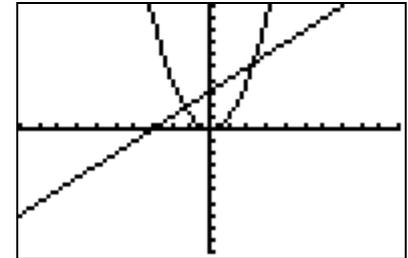
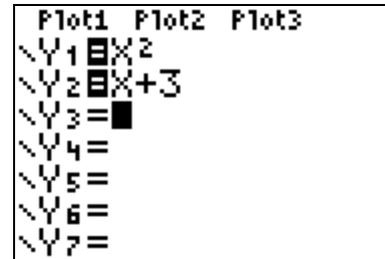


Intersection

1. Graph at least 2 lines/curves
2. Press 2nd Key then Trace (the CALC option)
3. Go to #5 intersect either press enter or number 5
4. Move the cursor(left/right)close to the first to the first intersection point. The press enter
5. Repeat step four for the second curve.
6. Press enter again
7. The intersection point appears.

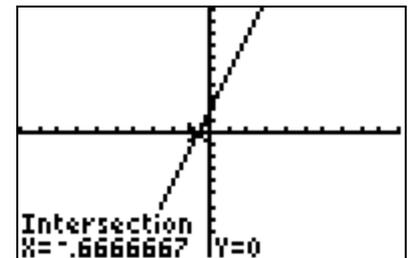
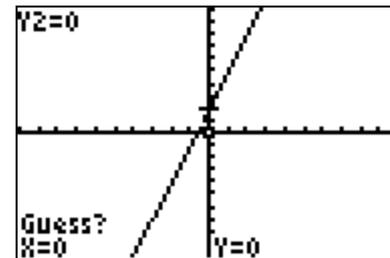
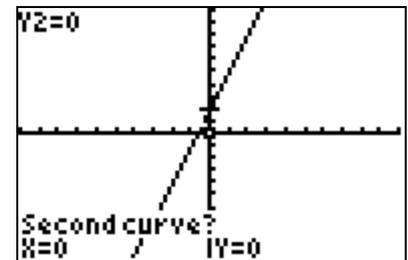
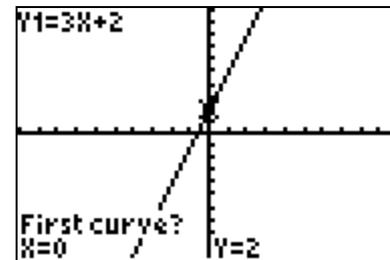
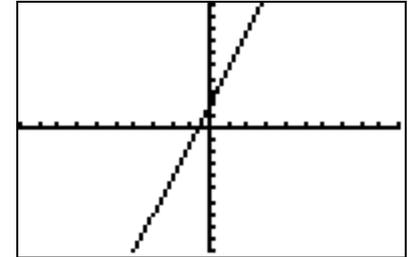
For every intersect, must repeat steps 2-7.

DO NOT USE TRACE!!!



X-Intercept: Method 1

1. Graph the function and graph $y=0$
2. Press 2nd Key then Trace (the CALC option)
3. Go to #5 intersect either press enter or number 5
4. Move the cursor(left/right)close to the first to the first intersection point. The press enter
5. Repeat step four for the second curve ($y=0$)
6. Press enter again
7. The intersection point appears. This point happens to be the x-intercept)
Repeat steps 2 through 7 for each x-intercept

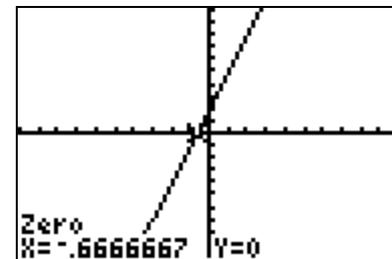
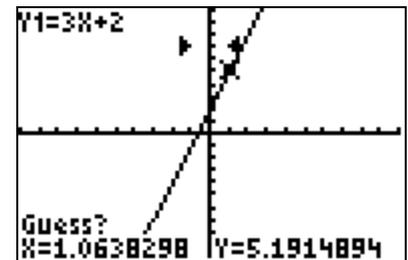
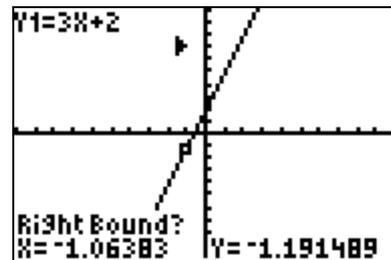
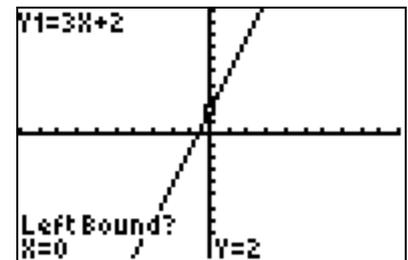
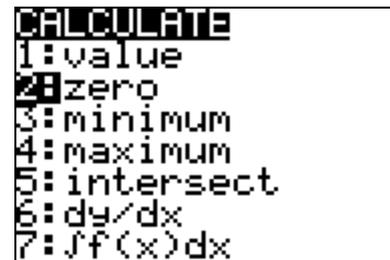
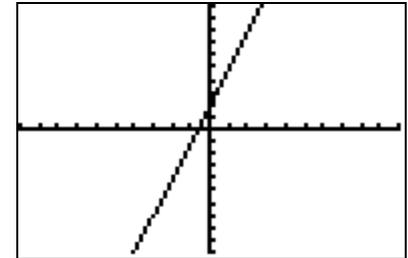
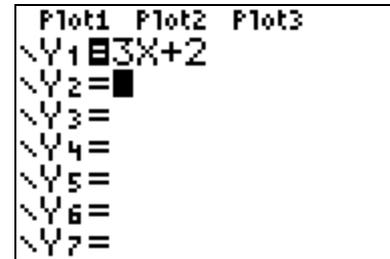


DO NOT USE TRACE!!!

X-intercept: Method 2

1. Graph the function
2. Press 2nd Key then Trace (the CALC option)
3. Select #2 Zero and press enter (or press 2)
4. Move the cursor to the left bound side of the x-intercept, and press enter
5. Move the cursor to the right bound side of the x-intercept and press enter
6. Press enter again
7. The x-intercept appears

Repeat steps 2 through 7 for each x-intercept



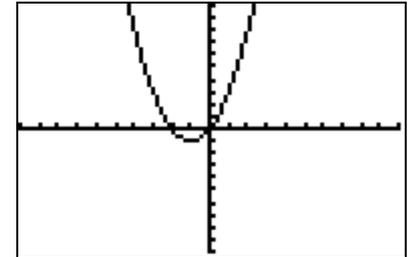
DO NOT USE TRACE!!!

Max/Min

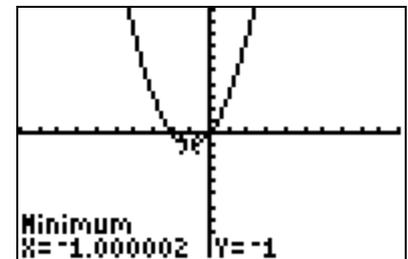
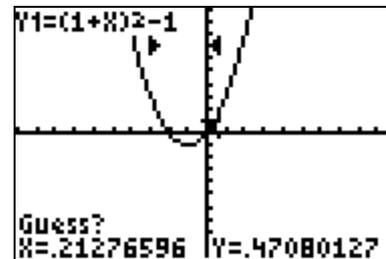
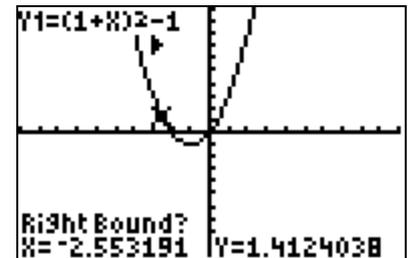
1. Graph the function
2. Press 2nd Key then Trace (the CALC option)
3. For Minimum: Select Number 3
For Maximum: Select Number 4
4. Go to the left side of max or min and press enter
5. Go to the right side of the max or min and press enter
6. Press enter again
7. The max or min point is then given

Repeat steps 2 through 7 for each max and/or min

```
Plot1 Plot2 Plot3
Y1=(1+X)²-1
Y2=
Y3=
Y4=
Y5=
Y6=
Y7=
```



```
CALCULATE
1:value
2:zero
3:minimum
4:maximum
5:intersect
6:dy/dx
7:∫f(x)dx
```



DO NOT USE TRACE!!!

Solve Numerically

When the textbook says to solve numerically, this means by a table

1. Graph the functions
2. Press 2nd and then graph (the Table option)
3. To adjust the interval the x's are in Press 2nd then Window (the TBLSET option)
4. Use TblStart= to set the starting value of the table
5. Use Δ Tbl = to change the step interval

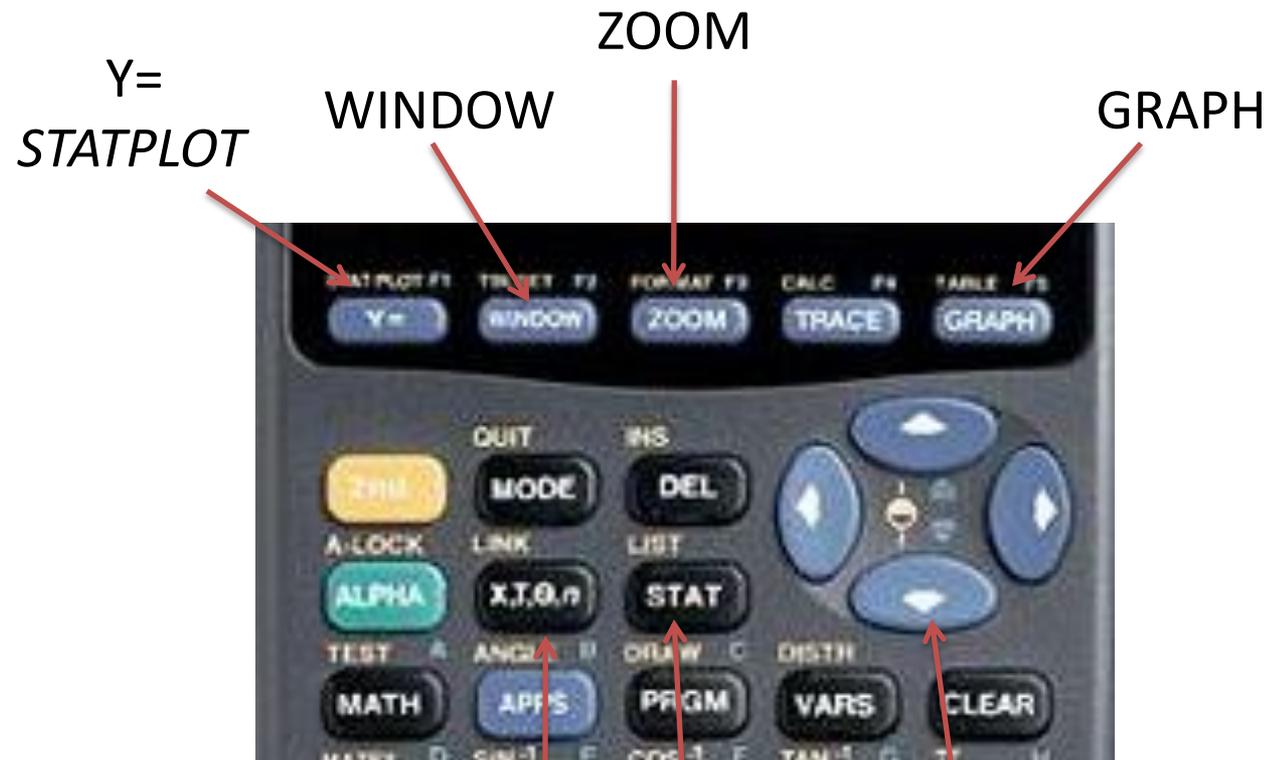
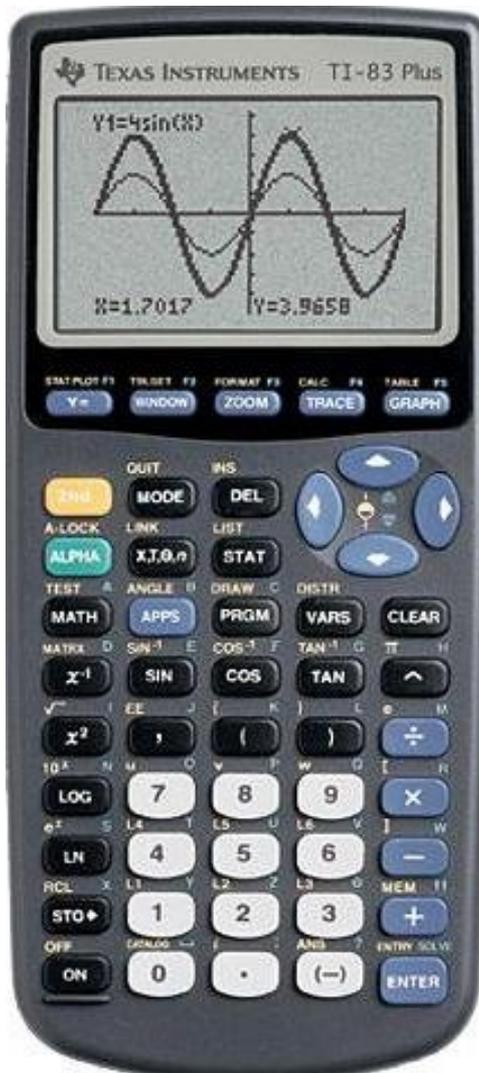
```
Plot1 Plot2 Plot3
Y1=3X+2
Y2=5
Y3=
Y4=
Y5=
Y6=
Y7=
```

X	Y1	Y2
0	2	5
1	5	5
2	8	5
3	11	5
4	14	5
5	17	5
6	20	5

X=0

```
TABLE SETUP
TblStart=0
ΔTbl=1
Indent: Auto Ask
Depend: Auto Ask
```

Plotting Points Important keys



Options in *italics* means you need to press the 2nd key first

STAT
Arrow Keys

Plotting the Points

1. Press STAT
2. Press Enter
3. Type in x values in L1 and y values in L2. Press Enter after each value. Use the left and right arrow keys to move between the lists.
4. Press 2nd y= (STATPLOT)
5. Press Enter
6. Make sure the cursor (flashing) is over the on, then press enter.
7. Press Graph

Note: Use 2nd Mode (QUIT) to Exit out of the Lists

```

EDIT1 CALC TESTS
1:Edit
2:SortA(
3:SortD(
4:ClrList
5:SetUPEditor
    
```

L1	L2	L3	1
-----	-----	-----	
L1(1) =			

L1	L2	L3	2
1	2	-----	
5	4	-----	
-----	5	-----	
L2(4) =			

```

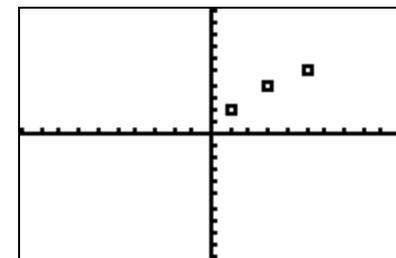
STAT PLOTS
1:Plot1...Off
  [ ] L1 L2
2:Plot2...Off
  [ ] L1 L2
3:Plot3...Off
  [ ] L1 L2
4:PlotsOff
    
```

```

Plot1 Plot2 Plot3
On [ ] [ ] [ ]
Type: [ ] [ ] [ ]
      [ ] [ ] [ ]
Xlist:L1
Ylist:L2
Mark: [ ] + .
    
```

```

Plot1 Plot2 Plot3
Off [ ] [ ] [ ]
Type: [ ] [ ] [ ]
      [ ] [ ] [ ]
Xlist:L1
Ylist:L2
Mark: [ ] + .
    
```



Find the line of best fit

1. Enter the points into the list
2. Press STAT.
3. Press the right arrow key to Calc.
4. Select LinReg (#4) and press enter
5. Press Enter again

The general equation for the line appears followed by the values that go into the equation. (TI 83 will look different)

```
EDIT [2nd] [DEL] TESTS
1:1-Var Stats
2:2-Var Stats
3:Med-Med
4:LinReg(ax+b)
5:QuadReg
6:CubicReg
7↓QuartReg
```

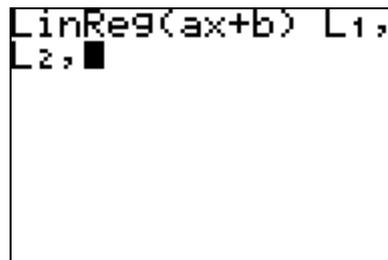
```
LinReg(ax+b)
```

```
LinReg
y=ax+b
a=.75
b=1.416666667
```

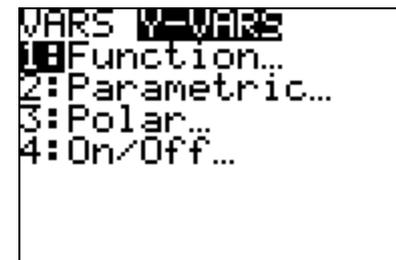
Plotting the Points and Graphing the Line of Best Fit

1. Press STAT.
2. Press the right arrow key to Calc.
3. Select LinReg (#4) and press enter
4. Type 2nd 1 (L1), then comma, 2nd 2 (L2), then comma
5. The Press VARS
Using the right arrow, move over to Y-vars, then press enter
6. Press enter again
7. Press enter again
8. Then press graph

Note: You can Turn the statplot on and in $y=$ type in formula for line of best fit.



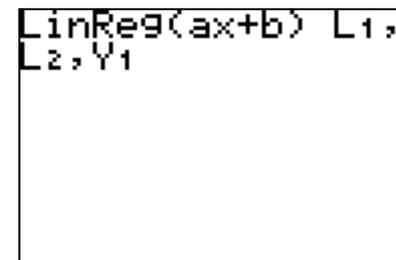
```
LinReg(ax+b) L1,  
L2,
```



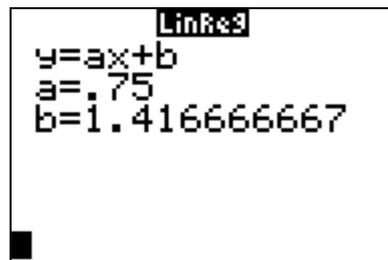
```
VARS Y-VARS  
1:Function...  
2:Parametric...  
3:Polar...  
4:On/Off...
```



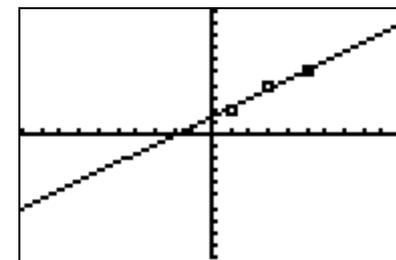
```
FUNCTION  
1:Y1  
2:Y2  
3:Y3  
4:Y4  
5:Y5  
6:Y6  
7:Y7  
↓
```



```
LinReg(ax+b) L1,  
L2,Y1
```



```
LinReg  
y=ax+b  
a=.75  
b=1.416666667
```



Clearing a List

1. Press STAT
 2. Press ENTER
 3. Use the up arrow until the list name is dark
 4. Press Clear
 5. Press Enter
- The list is now clear!

L1	L2	L3	2
1 5 5	2 5 5	-----	
L2(4) =			

L1	L2	L3	2
1 5 5	2 5 5	-----	
L2 = {2, 4, 5}			

L1	L2	L3	2
1 5 5	2 5 5	-----	
L2 = █			

L1	L2	L3	2
1 5 5	-----	-----	
L2(1) =			

Resetting the Calculator

If something is wrong with the calculator or you want to clear everything then:

1. Press 2nd + (MEM)
2. Select Reset (or press 7)
3. Select Defaults (or press 2)
4. Select Reset (or press 2)
5. A screen that says Defaults set will appear.

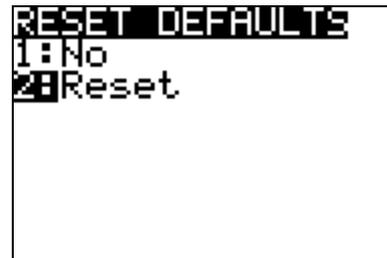
Warning: This will delete everything (numbers in lists, any functions in y=, games,...)



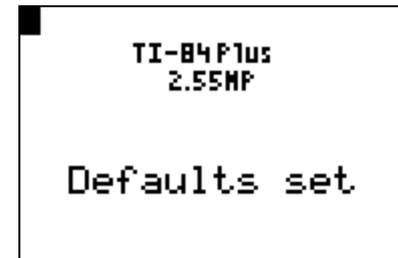
```
MEMORY
1:About
2:Mem Mgmt/Del...
3:Clear Entries
4:ClrAllLists
5:Archive
6:UnArchive
7↓Reset...
```



```
RAM ARCHIVE ALL
1:All RAM...
2:Defaults...
```



```
RESET DEFAULTS
1:No
2:Reset
```



```
TI-84 Plus
2.55MP

Defaults set
```