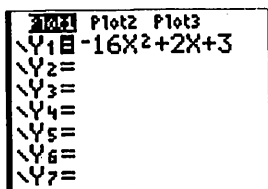


TI-83 Plus/TI-84 Graphing Calculator Tips

How to ...

...graph a function

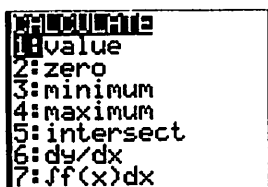
Press the $\boxed{Y=}$ key, Enter the function directly using the $\boxed{X,T,\theta,n}$ key to input x . Press the $\boxed{\text{GRAPH}}$ key to view the function. Use the $\boxed{\text{WINDOW}}$ key to change the dimensions



and scale of the graph. Pressing $\boxed{\text{TRACE}}$ lets you move the cursor along the function with the arrow keys to display exact coordinates.

...find the y-value of any x-value

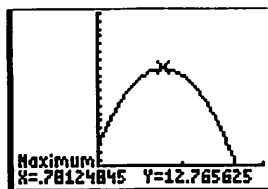
Once you have graphed the function, press CALC $\boxed{2\text{nd}}$ $\boxed{\text{TRACE}}$ and select 1:value. Enter the x -value. The corresponding y -value is displayed and the cursor



moves to that point on the function.

...find the maximum value of a function

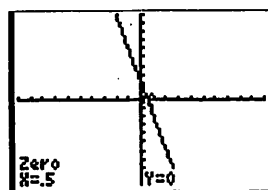
Once you have graphed the function, press CALC $\boxed{2\text{nd}}$ $\boxed{\text{TRACE}}$ and select 4:maximum. You can set the left and right boundaries of the area to be examined and guess the maximum value either by entering values



directly or by moving the cursor along the function and pressing $\boxed{\text{ENTER}}$. The x -value and y -value of the point with the maximum y -value are then displayed.

...find the zero of a function

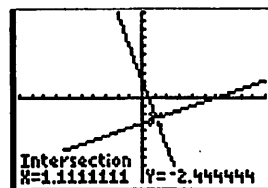
Once you have graphed the function, press CALC $\boxed{2\text{nd}}$ $\boxed{\text{TRACE}}$ and select 2:zero. You can set the left and right boundaries of the root to be examined and guess the value either by entering values



directly or by moving the cursor along the function and pressing $\boxed{\text{ENTER}}$. The x -value displayed is the root.

...find the intersection of two functions

Once you have graphed the function, press CALC $\boxed{2\text{nd}}$ $\boxed{\text{TRACE}}$ and select 5:intersect. Use the up and down arrows to move among functions and press $\boxed{\text{ENTER}}$ to select two. Next,



enter a guess for the point of intersection or move the cursor to an estimated point and press $\boxed{\text{ENTER}}$. The x -value and y -value of the intersection are then displayed.

...enter lists of data

Press the $\boxed{\text{STAT}}$ key and select 1:Edit. Store ordered pairs by entering the x coordinates in L1 and the y coordinates in L2. You can calculate new lists. To

L1	L2	3
NUM	8178	---
	6987	---
	4687	---
	2529	---
	2173	---

L3 =		

create a list that is the sum of two previous lists, for example, move the cursor onto the L3 heading. Then enter the formula $L1+L2$ at the L3 prompt.

Found on the top row - $\boxed{=}$ Button

② ENTER Function $y = 2x^2 + 8x + 7$

PRESS the $\boxed{\text{GRAPH}}$ button

(you should see a parabola which opens up)

TO FIND THE Vertex

Press $\boxed{2ND}$ button

press $\boxed{\text{TRACE}}$ button (you should see a CALCULATE MENU)

Scroll Down to *3 (MINIMUM)

the CALCULATOR will ask you Left Bound?

enter "-3" Right Bound? enter "0"

GUESS? JUST press "ENTER"

your Vertex will now show (since the parabola opens up it's a MINIMUM value. IF the parabola opens down it will be a MAXIMUM value)

The Vertex is $(-2, -1)$

TO FIND THE ROOTS (ZEROS OF THE FUNCTION) (X-intercepts)

PRESS $\boxed{2ND}$ button

PRESS $\boxed{\text{TRACE}}$ button

Scroll Down to *2 ZERO

LEFT BOUND? "-2.9"

RIGHT BOUND? "-2.7"

GUESS? enter

ZERO IS -2.707107

this is a root and -1.292893

next root $\boxed{2ND}$ $\boxed{\text{TRACE}}$

*2 ZERO

left bound = "-1.5" right "-1.1"

ZERO IS -1.292893

TROUBLESHOOTING

IF you can't see the graph

press **ZOOM**

Scroll down to #6 Z STANDARD (enter)

this is a standard window which allows the graph of most functions to be seen.

When you put in the numbers for

Left Bound and Right Bound

what you are doing is telling the

calculator where to go on the

X-AXIS to FIND the point you

want the coordinates of.

The point needs to be between the

LEFT BOUND and RIGHT BOUND.