

Sequences and Series

Get in sequence mode: *MODE*, use the arrows to highlight Seq, press *ENTER*.

Check the formatting: *FORMAT* [2nd *ZOOM*], use the arrows to highlight Time, press *ENTER*.

Enter a closed-form sequence: $Y=$

Example: to define the sequence $a_n = 1/n$, $n \geq 1$ as the sequence $u(n)$ use the down arrow key to place the cursor next to $nMin=$ and type 1

Then place the cursor next to $u(n)=$ and type $1 \div \text{X,T,Θ,n}$

Enter a recursive sequence: $Y=$

Example: to define the sequence $a_1 = 3$, and $a_n = na_{n-1}$, for $n \geq 2$ as the sequence $u(n)$, use the down arrow key to place the cursor next to $nMin=$ and type 1

Place the cursor next to $u(n)=$ and type $\text{X,T,Θ,n} * u$ [2nd 7] ($\text{X,T,Θ,n} - 1$)

Place the cursor next to $u(nMin)=$ and type 3. When you leave this line a pair of braces $\{ \}$ will automatically enclose the number 3.

This sequence should read 3, 6, 18, 72, 360,

Table of sequence terms: Adjust table values first (below)!

TABLE [2nd *GRAPH*]

Adjust values shown by table: *TBLSET* [2nd *WINDOW*]

Make sure $TblStart = nMin$ and $\Delta Tbl = 1$.

Graph sequence values: Adjust *WINDOW* as for functions, paying attention to extra parameters that must be entered. Then *GRAPH*.

Access the sequence name u : 2nd 7. Other names are v and w , above 8 and 9.

The name will be printed at the last cursor position.

Clear a sequence definition: $Y=$ Place the cursor on the formula, press *CLEAR*

Enter a series: $Y=$ Use u for the sequence of individual terms and v for the sequence of partial sums of u .

Example: to enter the series $\sum_{n=1}^{\infty} \frac{1}{n^2}$, enter the following values:

$nMin = 1$; $u(n) = 1/n^2$; $u(nMin) = \{ 1 \}$; $v(n) = v(n-1) + u(n-1)$; $v(nMin) = \{ 0 \}$. The n^{th} partial sum $\sum_{i=1}^n \frac{1}{i^2}$ will appear as $v(n+1)$.

Taken from

<http://answers.yahoo.com/question/index?qid=20090316164001AAiE>
[ZaT](#) on 5/7/2012:

How do you do the sigma notation on the TI-84 graphing calculator?

I remember learning this two years ago but now I forgot. I basically need it to evaluate this:

$(2/5)\text{summation}(\text{lower limit "i=1"; upper limit "n=5"}) - 2(2i/5) + 4$

...this is for the area approximation with rectangles for calculus and all....it'd help to know how to do this on a calculator. Where exactly is the function located and what format do I need to plug in the stuff?

Thanks.

- 3 years ago
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Best Answer - Chosen by Asker

You'd use the seq(and sum(commands to do that.

For example, if you wanted to do summation of $2X+2$, upper bound: 7, lower bound: 2, you'd write it as follows:

`sum(seq(2X+2,X,2,7,1))`

The basic syntax would be:

`sum(seq(<expression>, <variable (to solve for)>,<lower bound>,<upper bound>,1`

Now just your values with the ones above.

Note:

`sum(` is found in: [2nd][Stat](List) > Math > 5:sum(

`seq(` is found in: [2nd][Stat](List) > Ops > 5:seq(