

How to Do Page 21 #28 Using TI-Nspire™ With Touchpad

Use the TI-Nspire™ with Touchpad to explore arithmetic sequences.



1. Press the home key and under Documents, select 1: New Doc. See Figure 1. Select 4: Add Lists & Spreadsheet. Press . You will see Figure 2.

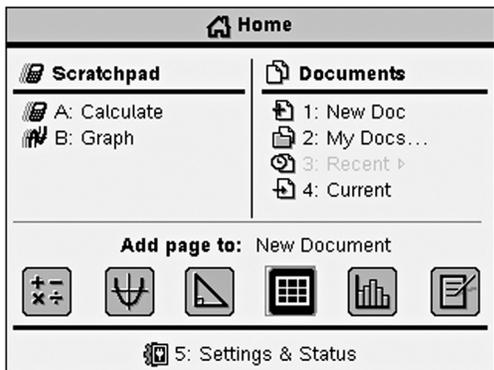


Figure 1

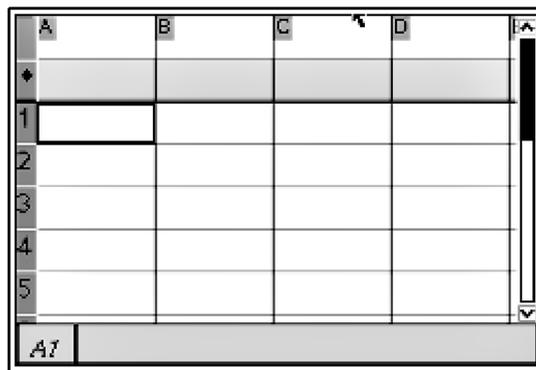


Figure 2

2. Give titles to columns A and B. (Nspire will now treat each column as a list.)
 - Move the cursor to the white space beside the A and type .
 - Move the cursor to the white space beside the B and type .
 See Figure 3.

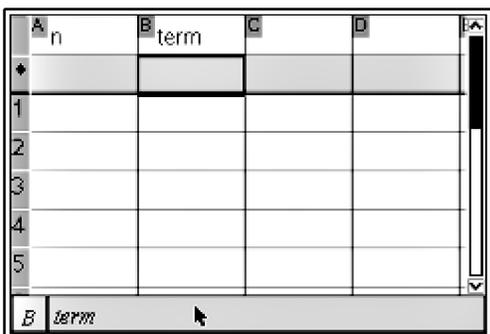


Figure 3



3. Fill column A with values for n , such as numbers 1 to 6.
- Move the cursor to cell A1 and press **1** **enter** as shown in Figure 4.
 - Move the cursor to cell A2 and press **=A1 + 1** as shown in Figure 5. (Press **enter**; the content of cell A2 will change to 2.)

A	n	B	term	C	D
1	1				
2					
3					
4					
5					

Figure 4

A	n	B	term	C	D
1	1				
2	=A1+1				
3					
4					
5					

Figure 5

- To copy the formula into the cells below A2, move the cursor to cell A2 and press **menu**. Then, select 3: Data. Then, select 3: Fill Down. See Figure 6.

A	n	B	term	C	D
2	2				
3					
4					
5					

Figure 6

- Move the cursor to cell A6 using the down arrow on the NavPad. The cells below A2 will be outlined in a rectangle, as shown in Figure 7. Press **enter** and the numbers 3 to 6 will fill in column A. See Figure 8.

A	n	B	term	C	D
2	2				
3					
4					
5					
6					

Figure 7

A	n	B	term	C	D
2	2				
3	3				
4	4				
5	5				
6	6				

Figure 8



4. Enter the first term and the common difference.

See Figure 9.

- With the cursor in cell C1, enter the first term. For example, press **8** .
- Move the cursor to cell D1 and enter the common difference. For example, press **4** .

A	B	C	D
n	term		
1	1	8	4
2	2		
3	3		
4	4		
5	5		

Figure 9

5. Fill column B with an arithmetic sequence.

- Move the cursor to the grey area just above cell B1 and type the following formula as shown in Figure 10.
=c1 + (a-1)d1

A	B	C	D
n	term		
1	1	8	4
2	2		
3	3		
4	4		
5	5		

Figure 10

After you press , an “empty bracket” will be added after the variable a , and the formula will be stored as shown in Figure 11.

A	B	C	D
n	term		
1	1	8	4
2	12		
3	16		
4	20		
5	24		

Figure 11



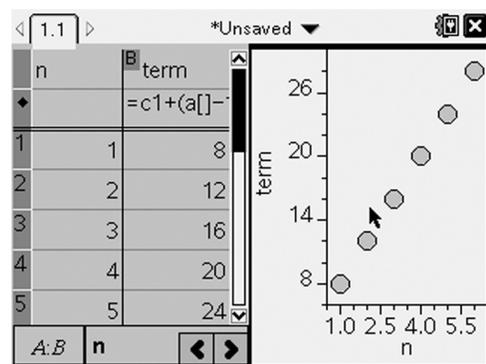
6. Graph the sequence.

- Using the NavPad, move the cursor to the top of column A until the column is highlighted.
- Press **↑shift** and then move the cursor to column B by pressing the right arrow on the NavPad. Columns A and B should now be highlighted. See Figure 12.

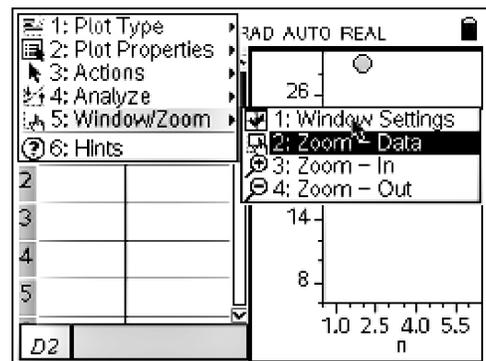
n	term	C	D
1	8	8	4
2	12		
3	16		
4	20		
5	24		

Figure 12

- Press **menu** and select 3: Data and then 6: Quick Graph. You will see Figure 13.
- To toggle between the spreadsheet and the graph, press **ctrl** **tab**.
- You can now move the cursor to cell C1 or D1 in the spreadsheet and change either the value of the first term or the common difference. The numbers in the sequence and graph will adjust to the changes you make.


Figure 13

Note: The window settings will not change automatically. So, if you make the first term 20 and the common difference 9, you will need to change the window settings. From the graph, press **menu**, select 5: Window/Zoom, and then select 2: Zoom Data. See Figure 14.


Figure 14

- If you wish to get information about the coordinates of any point, move the cursor to the point and press **ctrl**. Then, click the white button in the middle of the NavPad. Press **esc**. Note: If you move the cursor before pressing **esc**, the points will “follow” the cursor and you will get values of n that are not integers. If this happens, press **ctrl** **Z** to undo the change.

