

# Four Fours

## Teacher Notes

### Introduction

Can you calculate each of the integers from 1 to 100, using just the digit 4 four times, together with mathematical operations and symbols? The document entitled **FourFours.tns** provides a workspace for students to tackle this activity.

**1.1 Four fours**  
Using only four fours, how can you calculate all of the numbers from 1 to 100?

**1.2 An example**  
 $(4+4)/4+4=6$

**1.3 Fill in your answers here**

**1.4 My learning notes**

Page 1.1. Contents list

$4+4+44 = 52$

$4 \cdot \sqrt{4 + \frac{4}{4}} = 9$

$\frac{4+4}{4} + 4! = 26$

Page 1.2 Try out expressions here

A	no	B	calculation	C	answer	D	E
1	1			0	0		
2	2			0	0		
3	3		$(4+4+4)/4$		3		
4	4				0		

Calculator:  $B3 \mid \frac{4+4+4}{4}$

Page 1.3. Record results in the spreadsheet

**My learning notes**  
Record any interesting mathematics you learn here...

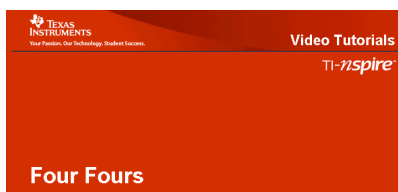
I learned about factorials.

$4! = 4 \times 3 \times 2 \times 1$

**[Teacher:** You can find factorials in the Statistics menu on the Calculator page.]

Page 1.4. A notes page for students

This document has been developed from an initial idea by Cindy Hunt and Linda Lewendon of Davison High School, Worthing.





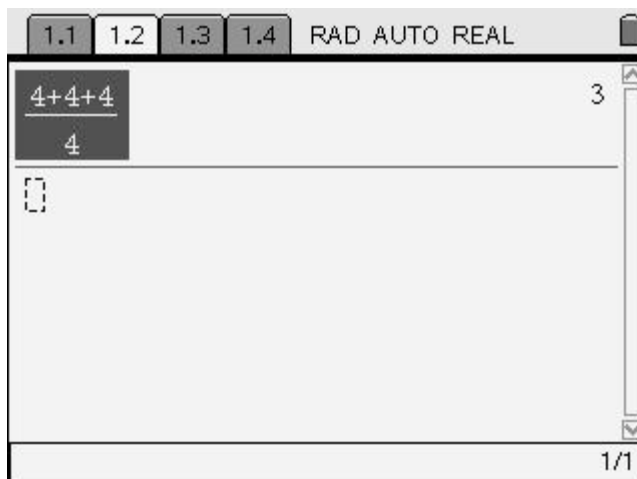
In addition to these notes, there is also a short video tutorial showing how to use the TI-Nspire document.

### How to copy an expression to the spreadsheet



Found an expression to record?  
This one gives the answer 3.

Highlight the expression:  
use the ▲ key.

To copy it:  
press  .

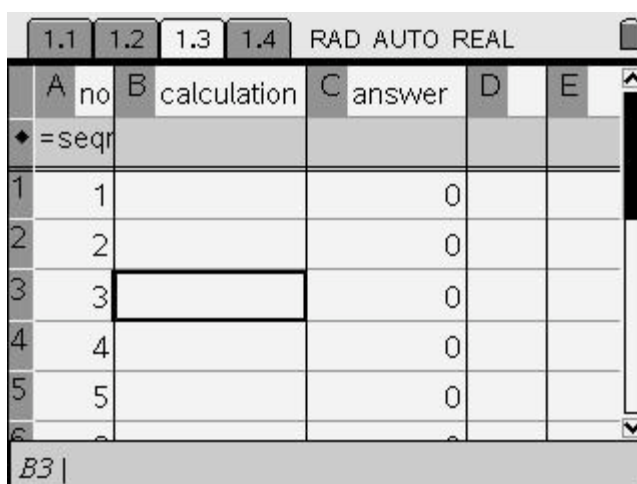


**Highlight the expression to copy**



Move to the next page:  
press  .

Find where to put it. This expression gives the answer 3, so it must go in that row.  
Use the NavPad to move to the required cell.

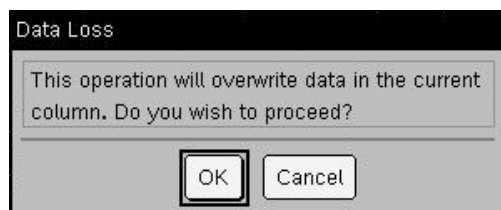
If necessary you can scroll down:  
press and hold ▼.



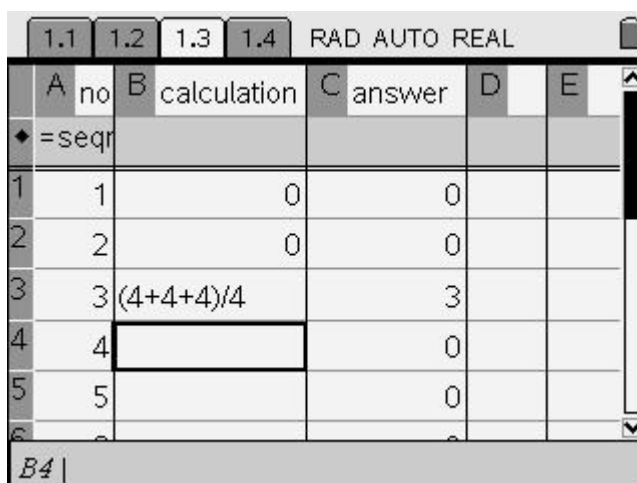
**Find the place to put it**

Paste the expression:  
press  .

Check that the right answer appears in column C.



If you see this message just press .



**Paste it into position**

### Suggestions for classroom use


Students are able to make changes to all four pages of the document.

Page 1.1: a space to enter name and date.

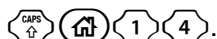
Page 1.2: a calculator page where they can experiment with different expressions.

Page 1.3: a record of current progress.

Page 1.4: a notes page where they can record interesting mathematics

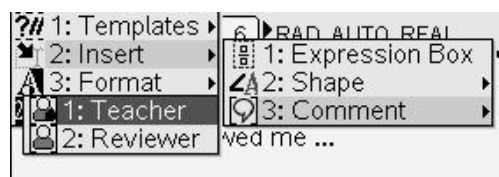
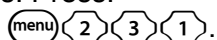
This means that students will be creating their own version of the document on the handheld, so a crucial first step will be for them to save the file under a new name. They will need the Save As option from the  File menu:

press:



*The Save As dialog box*

It is possible for teachers to insert comments on notes pages. Press:



*Inserting a comment by the teacher*

You may wish to consider photocopying the second page of these Teacher Notes if you feel students will need a reminder of how to copy an expression from the Calculator page to the Spreadsheet.