

## Spreadsheets

This edition of fxNews contains three example spreadsheets in file **SS07V1.g1m**.

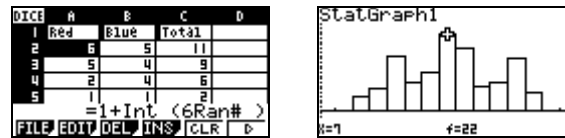
There is also Spreadsheets and Graphing tutorial that explains how to graph data from various cell ranges in a spreadsheet.

Below is a description of each of the included spreadsheets.

### DICE

Use this spreadsheet to simulate throwing 2 dice (one red and one blue) 120 times and create a histogram of the results.

It is used as an example in the Spreadsheets and Graphing tutorial.

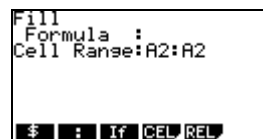


To 're-throw' all the dice use the File, Recal command.



If you would like to create your own, or modify the existing spreadsheet, the commands used to create it are shown below.

To create two columns of 120 random numbers between 1 and 6



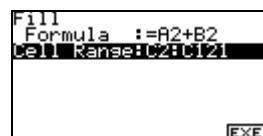
For the formula use **=1+Int (6Ran# )**.

For **Int** tap OPTN F6 F1 F2 and for **Ran#** tap OPTN F5 F4.



For the Cell Range use A2:B121.

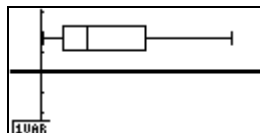
To add the two columns together for the total



## WAPOP

This spreadsheet contains data for the Statistical Division of Perth from the 2001 Australian Census and is taken from the Australian Bureau of Statistics website at [www.abs.gov.au](http://www.abs.gov.au)

WAP	A	B	C	D
1	AREA		POPULA	BIRTHS
2	Cambridge		24322	291
3	Clermont		9206	74
4	Cottesloe		7327	78
5	Mosman Park		8364	92
			AREA	



It is also used as an example in the Spreadsheets and Graphing tutorial.

The data columns are

- A Statistical Local Areas (37 altogether)
- C Estimated Resident Population at June 2001
- D Number of Births in 2001
- E Number of Deaths in 2001

Some ideas you may like to begin to explore with your students are

- Overall birth and death rates for all data.
- Local area birth and death rates – which area has highest? Lowest?
- Growth rates.
- Predictions based on this data.
- Distribution of population throughout areas. Any Outliers?

Some of these will require further calculations with the data – a great way to develop spreadsheet skills.

### WA POPULATION NOTES from the ABS

At June 2001, the Statistical Division of Perth had the highest estimated resident population with 1.4 million people. The data in WAPOP is drawn from this division.

The estimated resident population of the whole of WA at December 2001 was 1.9 million. The main contributors to population growth in 2001 were net overseas migration (15,600) and natural increase (13,200). WA also experienced a loss of 3,600 people to interstate migration with an overall growth rate of 1.3%.

In 2001, there were 24,000 births registered to mothers usually residing in WA and there were 10,800 deaths registered where the deceased was usually resident in WA.

## POLYNOMS

This spreadsheet generates the formula and the first 30 polygonal numbers for any given number of 'sides'  $s$ .

A polygonal number is a type of figurate number that is a generalization of triangular, square, etc., to an  $s$ -gon for an arbitrary positive integer.

POL1	A	B	C	D
1	POLYGONAL NUMBERS			
2	NUMBER OF SIDES =			1
3	Formula for nth			
4	$2.5$	$n^2 -$	$1.5$	$n$
5	$n$	$P(n)$	DIFF 1	DIFF 2

POL1	A	B	C	D
4	$2.5$	$n^2 -$	$1.5$	$n$
5	$n$	$P(n)$	DIFF 1	DIFF 2
6	1	1		
7	2	4	3	
8	3	9	5	2

The only cell that needs to be modified is D4.

The remainder of cells automatically update.

The first and second difference patterns are displayed in columns C and D.

POL1	A	B	C	D
1	POLYGONAL NUMBERS			
2	NUMBER OF SIDES =			4
3	Formula for nth			
4	$1$	$n^2 -$	$0$	$n$
5	$n$	$P(n)$	DIFF 1	DIFF 2

POL1	A	B	C	D
4	1	$n^2 -$	$0$	$n$
5	$n$	$P(n)$	DIFF 1	DIFF 2
6	1	1		
7	2	4	3	
8	3	9	5	2

Scroll down to find up to the 30<sup>th</sup> polygonal number for  $s$  sides.

POL1	A	B	C	D
1	POLYGONAL NUMBERS			
2	NUMBER OF SIDES =			8
3	Formula for nth			
4	$3$	$n^2 -$	$2$	$n$
5	$n$	$P(n)$	DIFF 1	DIFF 2

POL1	A	B	C	D
32	27	2133	157	6
33	28	2296	163	6
34	29	2465	169	6
35	30	2640	175	6
36			$=B34+C35$	

### Note

If you would like your students to work out the general formula themselves, simply delete rows 3 and 4 before passing the spreadsheet on to them. It was purposely created using differences rather than the general formula.

POL1	A	B	C	D
1	POLYGONAL NUMBERS			
2	NUMBER OF SIDES =			8
3	$n$	$P(n)$	DIFF 1	DIFF 2
4	1	1		
5	2	8	7	

Remember that with all the spreadsheets supplied by fxNews you always have a backup copy in storage memory.

So if you or your students corrupt the data in them or simply want to start again simply pop into storage memory, select the spreadsheet file and copy back into main memory.

Be careful doing the above if you have made changes to the spreadsheets that you actually want to keep! When this is the case, always save a copy from main memory back into storage memory with a different name.