

Graphical Times.

Volume 11, Issue 47, 2013.



Welcome back to term 3! Winters officially here! Moving in to the mock examination term, please find this term 3 newsletter and pricing informative and price saving for your school and students needs. Term 3 promotions is buy 10 FX9750Gii and receive 11, buy 20 FX9750Gii and receive 22, while stocks last.



The NZAMT13 Biennial conference is happening in the first week of the break between term 3 and 4. 1-4th October in Wellington.

Studyit is back on line: <http://www.studyit.org.nz/>



What's in here!

Included in this terms newsletter is: Calculator activities for the Classpad, graphic and scientific calculator:

- **Worksheet for the Classpad 330+ and similar models: Spirolaterals**
- **Worksheet for the FX9750GII and similar models: Inequalities**
- **Worksheet for the FX82AU: Patterns and relationships**
- **Term 3 pricing valid from, 29th July 2013 until the end of term 3, 2013.**

Workshop opportunities.

Workshop opportunities: If you would like to have a workshop for teachers and or students then please make contact with *Graphic Technologies*. A large number of schools are taking up this opportunity either singularly or as a cluster of schools (with both the graphic calculator and the ClassPad330+), to look at how the graphic calculator and CAS could impact on and be integrated into classroom practice. With NZQA having acknowledged that year 12 & 13 students without a graphical calculator being disadvantaged, a large number of schools are taking up the opportunity to up skill teachers and students on this mathematics/statistics technology.



Graphic Technologies Specials for Term 3.

See the term 2 and 3 pricing sheet for more products.

Product	# of Units	Price per unit (excl GST)
FX9750GII graphic calculator (monochrome) RRP \$132.95 Term 3, 2013 special – buy 10 and get 11 FX9750Gii – buy 20 and get 22 FX9750Gii etc. While stocks last.	1 - 10	\$95.00
	11 - 19	\$93.50
	20 +	\$91.50
EA-200 Data Logger and EA- 2 Motion Sensor combined [Limited supply]	NA	\$600.00
FA-124USB cable [high-speed data communication between PC and the FX9750GII]	NA	\$15.00
FX991ES plus version 3 emulator software version 3 A desirable addition to all Cambridge Examination classrooms.	NA	\$130.00

Mathematics Department Cycle [Pass it on to . . .]

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Classpad update.

ClassPad Help Series - a resource for both students and teachers. Basic, Intermediate and Advanced sections for the help you require. The section titles are intended to reflect your stage of development with ClassPad, rather than mathematical or statistical ability. You can either click a title to play a short movie in the right hand pane or choose **PDF** to open a printable help sheet in a new window. Visit: <http://www.classpad.com.au/index.html>

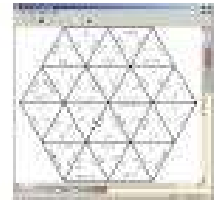
Websites of interest.

The StatCrunch mean/std. dev. vs. median/IQR applet has been designed to help students learn how data values affect various summary statistics. This interactive demonstration allows the user to add/move data points while updating summary statistics in real time.

<http://www.statcrunch.com/5.0/viewreport.php?reportid=25785>

Tarsia, a tool for creating activities in a form of jigsaws or dominos etc., for use in a class. It includes an equation editor for building the mathematics and statistics expressions. It enables support of teachers and gives them new perspectives to the development of teaching activities:

http://www.freedomdownloadcenter.com/Business/Educational_Tools/Formulator_Tarsia.html



Updating your school stationery pricing and information sheets for 2014

If you are on the Casio programme, or need to pass on information to your stationery shop, then please note that the FX82AU + II will have 4 new features. These features have been added to enhance the calculator to address more aspects of the NZ curriculum. Attached is an image of the calculator (showing the 'Verify' logic) which will be called the FX82AU Plus II.

The main additions for this model from the FX82AU Plus are:

- Q1/Q3/Med
- Factorization into prime factor
- Verify
- GCD/LCM

Please have your stationery lists updated for 2014.



Program to support the use of the FX9750Gii.

In 2011 Casio Education NZ launched the 'Top Schools Program' to support schools using the new model of FX82AUplus scientific calculator. Registration numbers and general feedback indicated that the resources provided were of great benefit, so Casio Education NZ is launching a similar program in 2012 to support schools currently using (or wanting to use) the FX9750Gii graphic calculator. Details were released in term 2, an information pack was sent in the post. The goal is to have all senior students in New Zealand using a graphics calculator so that no one is disadvantaged during NCEA examinations. Professional development courses will be offered in conjunction with Graphic Technologies supporting the program which looks to offer a sample calculator and comprehensive 'How to get started on your FX9750Gii' instructional manual. Details of the program can be uploaded from www.casio.edu.monacocorp.co.nz.

Worksheets downloaded off the web.

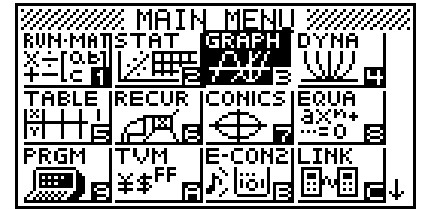
Visit Monaco Corporation and Graphic Technologies websites to view and download worksheets. There are links to other informative mathematics education websites too. For teachers we currently offer a large number of 'classroom ready' resources available and are designed primarily for the CASIO® FX82AU, FX9750Gii, FX9750G, FX9750G+, CFX9850GB, CFX9850GB+, CFX9850GC+, FX9750GA+ and FX9750Gii models of graphical calculators and the ALGEBRA 2.0. There is also a variety of activity sheets designed for the ClassPad300, 300+, 330A and 330A+ models. All of the activities and worksheets are designed for beginners to advanced users of the GC and CAS. More have been added to the website since the last newsletter.

Please visit: www.casio.edu.monacocorp.co.nz and <http://graphic-technologies.co.nz>.

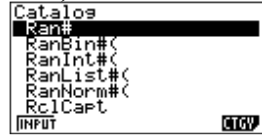
Generating random numbers

Generating the roll of a dice or 2 or 3 or ...

You need to use CAT for the Ran# command and OPTN for the Int command.
 CAT = [SHIFT] [7] then scroll through the list to the R's then [F1] to input the command.



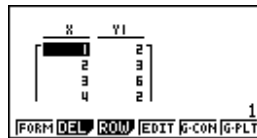
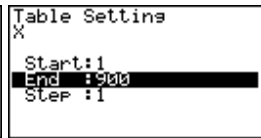
For 1 dice (uniform distribution).



OPTN for NUM to get [Int] = [F2]

Then make sure you select [SET] = [F5] for how many you want to generate, example is set for 900 'rolls' of the dice.
 [Note: maximum values in the table is 999 entries.]

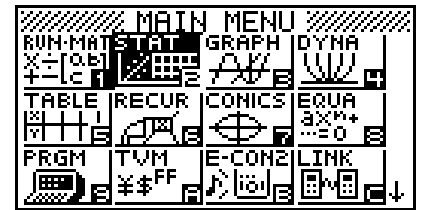
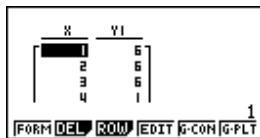
Results:



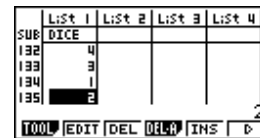
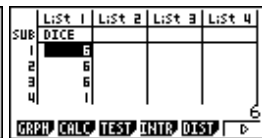
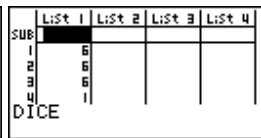
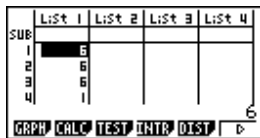
[SET] = [F5]

[F6] to create the TABLE

Then you can transfer to the STAT area to work on...

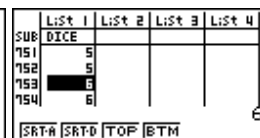
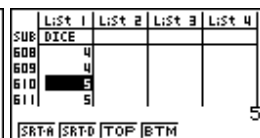
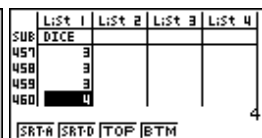
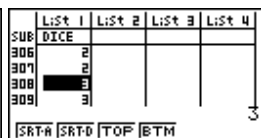
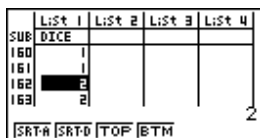


Move the cursor from the x-column to the y-column and select OPTN, then [F1] for LMEM, then select the 'list space' you want to store the 900 dice rolls in, then [EXE].



You can name the column 'DICE'.

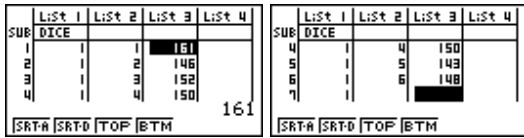
Sort via [TOOL] = [F6] then [F1] to get a 'count' of the '1's to 6's.



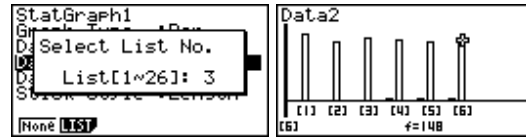
Scrolling through the list of dice rolls and recording the counts. Record this in a table.

Dice score	Frequency	Theoretical
1	161	150
2	307 - 161 = 146	150
3	459 - 307 = 152	150
4	609 - 459 = 150	150
5	752 - 609 = 143	150
6	900 - 752 = 148	150

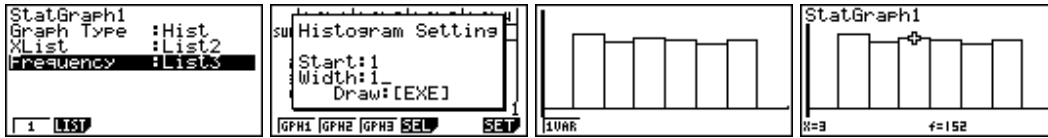
[Note: Summary experimental statistics can be collated and compared to the theoretical statistics also.]



Place the Dice score and Frequency into list 2 and 3 respectively.



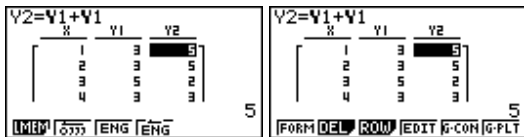
Draw up either a Bar graph or Histogram to illustrate the 900 dice rolls. Using [SHIFT] F1 you can scroll across the Bar graph or Histogram.



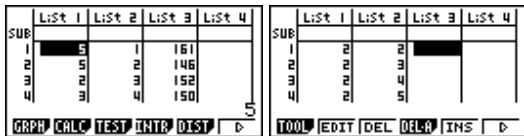
For the sum of 2 dice (triangular distribution).



Back into the TABLE icon, then use 'Y' accessible via the VARS key, rather than re-entering the command: $\text{Int}(\text{Ran}\# \times 6) + 1$. Generate the number of 2 dice rolls you want to do in [SET] = [F5]. See example below:

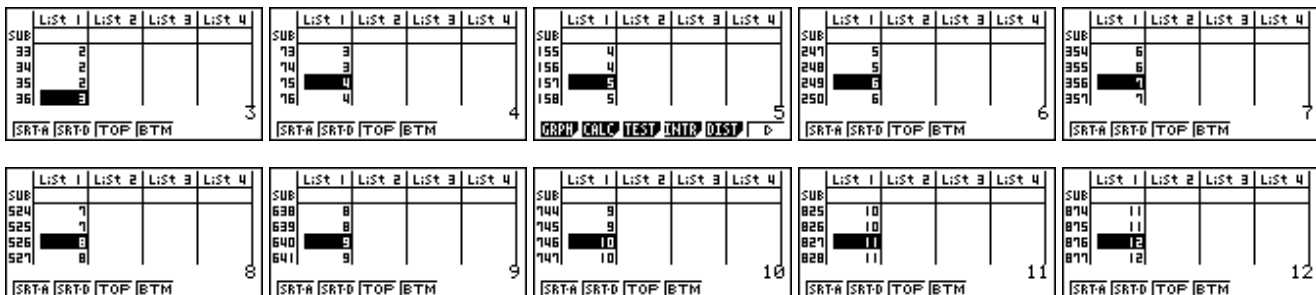


Generate the sum of the 2 dice rolls $Y1 + Y1$, then transfer to STAT.



Set up List 2, i.e. 2, 3, ... , 11, 12 and delete the data in list 3, sort and then count each category by scrolling through the list.
[Note: Summary experimental statistics can be collated and compared to the theoretical statistics also.]

Dice score	Frequency	Theoretical
2	35	25
3	$74 - 35 = 39$	50
4	$156 - 74 = 82$	75
5	$249 - 156 = 93$	100
6	$355 - 249 = 106$	125
7	$525 - 355 = 170$	150
8	$639 - 525 = 114$	125
9	$745 - 639 = 106$	100
10	$826 - 745 = 81$	75
11	$875 - 826 = 49$	50
12	$900 - 875 = 25$	25



Then draw the Bar graph or Histogram.

For the sum of 3 or 4 or... dice.



A last word!

Well again, that's all I can fit onto the 4 pages! Enjoy the term! Hope to see you at some workshops or hear from you via this newsletter or otherwise! If you would like to contribute or have suggestions as to what you would like to have discussed via this medium, please do not hesitate to contact us either by snail-mail, email, website, telephone, text or fax.

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