

# Graphical Times.

## Volume 11, Issue 51, 2014.



Welcome back to term 3! We hope that you have had a restful break and ready for the winter term, school based examinations (derived grade examinations), tournament week, mathswalk, ... A reminder that Term 3 sees the conclusion of the random draw for the XJM240, 2500 ansi lumen, wide screen data projector from orders received during terms two and three, 2014.

### What's in here!

Included in this terms newsletter are calculator activities for the Classpad, graphic and scientific calculators:

- **Worksheet for the Classpad and similar models: Getting the ladder around the corner!**
- **Worksheet for the FX9750GII and similar models: Graphing integral calculations.**
- **Worksheet for the FX82AU and similar models: Trigonometry.**
- **Term 3 pricing valid from the 21<sup>st</sup> July until the end of term - 26<sup>th</sup> September, 2014.**

### 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 ClassPad), 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 the use of a graphical calculator being disadvantaged, a large number of schools are taking up the opportunity to up skill teachers and students in using these mathematics/statistics technologies.



### Program to support the use of the FX9750GII.

Casio Education NZ launched the 'Top Schools Program' to support schools using the FX82AUplus II scientific and FX9750GII graphic calculators. So please support Casio Education NZ program in 2014 to support schools currently using FX82AUplus II scientific and FX9750GII graphic calculators.

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 this initiative. **Details of the program can be uploaded from: [www.casio.edu.monacocorp.co.nz](http://www.casio.edu.monacocorp.co.nz)**  
**Please make sure that your schools stationery lists are updated for 2014.**

### Websites of interest.

<http://www.mathswalk.org.nz/> Countdown to Monday 11<sup>th</sup> August.

<http://www.socrative.com/> Just upgraded to version 2.0.

[http://www.transum.org/Software/SW/Starter\\_of\\_the\\_day/](http://www.transum.org/Software/SW/Starter_of_the_day/) Starters for the day.

<http://www.wolframalpha.com/> Everyone's favourite!

<http://www.mathplayground.com/AlgebraEquations.html> Algebra balance, the see-saw use of LHS = RHS.

<http://www.educrations.com/> recording work.

### Mathematics and Statistics faculty circulation [Pass it on to . . . ]

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## Graphic Technologies Specials for term 3, 2014.

Some pricing specials for term 3, valid until the end of this term only - 26<sup>th</sup> September, 2014.

Product	# of Units	Price per unit (excl GST)
<b>FX9750GII graphic calculator (monochrome) RRP \$132.95</b> For each multiple of 10 FX9750GII ordered in term 3, 2014 receive a free FA-124 USB cable [high-speed data communication between the PC and FX9750GII]. Buy 10 get 1 FA-124 USB cable, buy 20 get 2 FA-124 USB cables, buy 30 get 3 FA-124 USB cables, to a maximum of 3 FA-124 USB cables per school per order – while stocks last.	1 - 10	\$88.50
	11 - 19	\$85.50
	20 +	\$82.50
<b>FX82 AU plus scientific calculator RRP \$33.95</b>	1 - 9	\$23.00
	10 +	\$22.00
FX-CG20 GRAPHIC CALCULATOR <b>New model - Special pricing</b>	NA	\$200.00
AAA Batteries Card of 4 (Minimum 12 cards (48) an order) <b>Special for term 3 only</b>	NA	<b>\$4.00</b>
AA Batteries Card of 4 (Minimum 12 cards (48) an order) <b>Special for term 3 only</b>	NA	<b>\$4.00</b>

## Term 2-3, 2014 Casio XJM240 data projector promotion.

This term is the last chance to be in the draw for this magnificent prize. The winning school is: [YOUR SCHOOL NAME COULD BE HERE] will be receiving the schools prize in October 2014.



Mercury-free, high-luminosity Hybrid Light Source



Casio projectors have been added to our product range. If you are thinking of replacing your current data projectors or looking for an additional unit(s) to meet your schools requirements please consider either of these units offered in our school pricing list. Additional information on these two data projectors is available on request.

### Features Include:

- Ecologically sound and energy saving
- NEW mercury-free light source
- 2 × optical zoom
- Lamp-free technology with up to 20,000 hours continuous performance
- WLAN capability
- USB 2.0 for FX9750Gii graphic calculator can be connected directly into the projector [XJA145]
- USB data files can be connected directly into the projector
- The size of a ream of A4 paper!



**Promotion:** A term 2 and 3, 2014 promotion, every order received between 5<sup>th</sup> May, 2014 and 26<sup>th</sup> September, 2014 will go into the draw for winning a XJM240, 2500 ansi lumen, wide screen data projector.

See <http://www.casio-projectors.eu/euro/products/xjm240/> for technical details and the Graphic Technologies pricing list of the data projector models and types we are resellers for.

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

## Classpad update.

[http://www.casio.edu.shriro.com.au/cr\\_classpad\\_corner.php](http://www.casio.edu.shriro.com.au/cr_classpad_corner.php)

## 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](http://www.casio.edu.monacocorp.co.nz) and <http://graphic-technologies.co.nz>

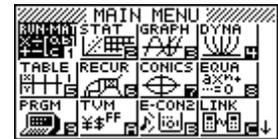
## The use of 'IntRan#' for multiple random events.

### Simulations using the FX9750Gii.

Consider the roll of a fair 6-sided dice and the flip of a fair coin...

Select **RUN-MAT** mode from the **Main Menu** by using the arrow keys to highlight the **RUN-MAT** icon or by pressing the [1] key respectively.

To bring up the random number functions you have the choice of **Ran#** and **RanInt**.



OPTN

F6

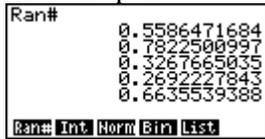
F3

F4

Then press either [F1] or [F2].

**Ran#** generates random numbers between 0 and 0.999 999...

For example:



Press [EXE] to generate the random numbers.

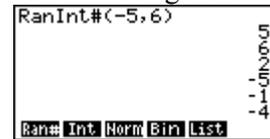
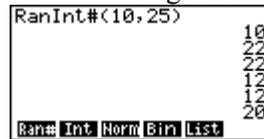
**RanInt** generates integer random numbers between two values inclusive selected.

For example:

$1 \leq \text{random number generated} \leq 5$

$10 \leq \text{random number generated} \leq 25$

$-5 \leq \text{random number generated} \leq 6$



To roll of a fair 6-sided dice and the flip of a fair coin use **RanInt(1,6)** and **RanInt(1,2)**.

To capture both for each complete trial use the '◀' symbol, which is the command for 'display result'.



SHIFT VARS for PRGM

[F5] for ▶

To set the calculator up:



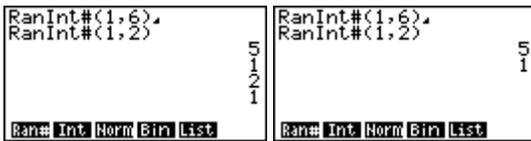
To generate each trial for the simulation...



Press [EXE] and again, keep pressing [EXE].



And so on...



Recording the simulations in a similar grid below.

Dice roll	Dice = 1	Dice = 2	Dice = 3	Dice = 4	Dice = 5	Dice = 6
Coin flip						
Head = 1						
Tail = 2						

How well does the simulation after many trials (n is the total number of trials)?

Dice roll	Dice = 1	Dice = 2	Dice = 3	Dice = 4	Dice = 5	Dice = 6
Coin flip						
Head = 1	$\frac{1}{12} \times n$					
Tail = 2	$\frac{1}{12} \times n$					

How could you simulate using a biased coin or a biased dice or both?

## A last word!

Well again, that's all I can fit onto the 4 pages! Enjoy term 3! 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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