

# Graphical Times.

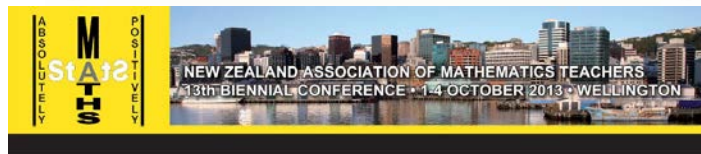
## Volume 11, Issue 48, 2013.



Welcome back to term 4!

The NZAMT13 Biennial conference happened.

Congratulations to the organising committee for hosting an amazing 4 days and we look forward to the NZAMT14 conference hosted in Auckland in 2015.



Studyit is back on line: <http://www.studyit.org.nz/> and I have been reading! An analysis of the theoretical and empirical work in assessment (Wiliam & Leahy, 2007; Wiliam &Thompson, 2007) suggests that effective formative assessment consists of five key strategies:

- clarifying learning intentions and sharing criteria for success
- engineering effective classroom discussions, questions, and learning tasks that elicit evidence of learning
- providing feedback that moves learners forward
- activating students as the owners of their own learning
- activating students as instructional resources for one another.

## 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: Geometry and an extension of Pythagoreas Theorem**
- **Worksheet for the FX9750GII and similar models: Pythagoreas Theorem and the difference of step length 'm'**Worksheet for the FX82AU: **A birthday problem**
- **Term 4 pricing valid from, 15<sup>th</sup> October 2013 until the end of term 4, 2013.**
- **Back to school pricing is valid until February 28<sup>th</sup> 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 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.



## 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>



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

	→		→		→		→		→
	→		→		→		→		→
	→		→		→		→		→

## Graphic Technologies Specials for Term 4.

Some pricing specials from term 4, 2013.

Product	# of Units	Price per unit (excl GST)
FX9750GII graphic calculator (monochrome) RRP \$132.95 <b>Term 4, 2013 special – buy 10 and get 11 FX9750Gii – buy 20 and get 22 FX9750Gii etc.,</b> <b>Note: While stocks last with a limit of 5 [maximum] free per school for this promotion.</b>	1 - 10	\$80.00
	11 - 19	\$78.00
	20 +	\$75.00
FX82 AU plus scientific calculator	1 - 9	\$18.00
	10 +	\$16.00
FX-CG20 GRAPHIC CALCULATOR <b>New model - Special pricing</b>	NA	\$200.00

**Promotion:** As a term 4, 2013 promotion, every order received between 15<sup>th</sup> October 2013 and 30<sup>th</sup> November 2013 will go into the draw for winning a XJM240, 2500 ansi lumen, wide screen data projector.

**CASIO**



Mercury-free, high-luminosity Hybrid Light Source



See <http://www.casio-projectors.eu/euro/products/xjm240/> for technical details.

See the term 4 pricing sheet for more products and specials.

## Term 3 winner of the Casio XJM240 data projector

Waiheke High School. Congratulations – the data projector is on its way to you. Enjoy!

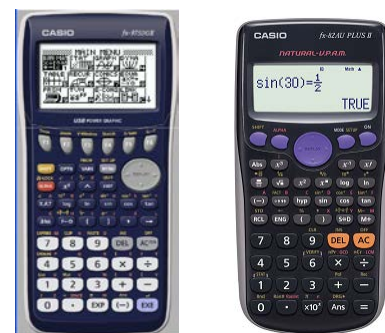
## Updating your school stationery pricing and information sheets for 2014

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.



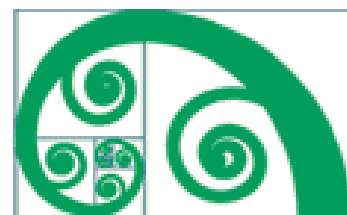
## Websites of interest

<http://www.mathsreach.org/Careers>

<http://www.mathsreach.org/Videos> Video by Category

<http://www.mathsreach.org/Stories> These are stories that show the connections between Maths and everyday life. <http://www.mathsreach.org/Links>

Mathematics is often seen as being out of touch with the everyday world. This website offers insights into the lives of those funny creatures called mathematicians doing real life mathematics. We hope the videos and other resources will inspire you to see that mathematics can open doors to all sorts of walks of life. The Reserve Bank manages monetary policy to maintain price stability, promotes the maintenance of a sound and efficient financial system, and



New Zealand Institute of  
Mathematics & its Applications

supplies New Zealand banknotes and coins:

[http://www.rbnz.govt.nz/financial\\_education/](http://www.rbnz.govt.nz/financial_education/)

<http://www.rbnz.govt.nz/statistics/>

[http://www.rbnz.govt.nz/notes\\_and\\_coins/issuing\\_or\\_reproducing/](http://www.rbnz.govt.nz/notes_and_coins/issuing_or_reproducing/)

<http://www.rbnzmuseum.govt.nz/>

Black Douglas invites you to explore and enjoy <http://www.blackdouglas.com.au/taskcentre/news.htm>

PPResources - ppts and statistical distribution spreadsheets <http://www.ppresources.com/resource.htm>

<https://www.khanacademy.org/>

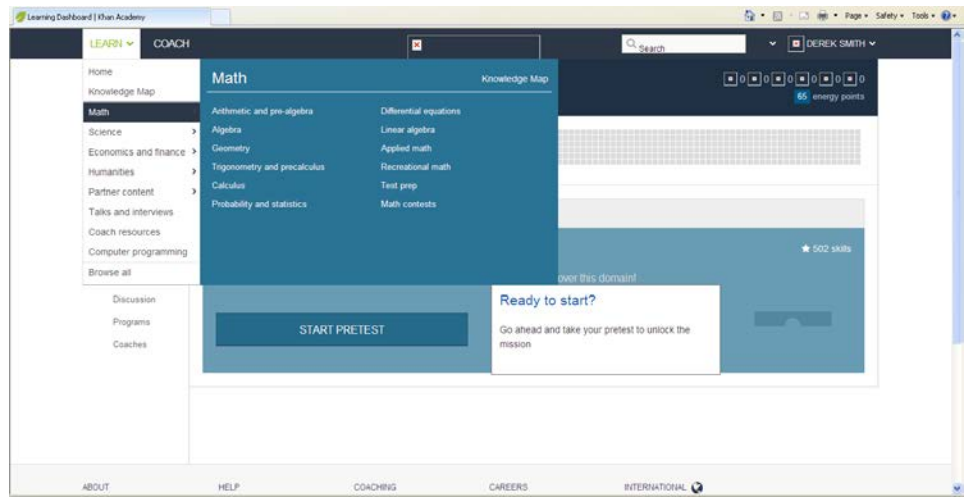
pretests and mastery test which students can use for self-teaching in most aspects of mathematics, calculus and statistics

## 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 II 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. 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](http://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.

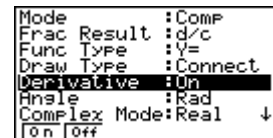
Please visit: [www.casio.edu.monacocorp.co.nz](http://www.casio.edu.monacocorp.co.nz) and <http://graphic-technologies.co.nz>

## Calculus

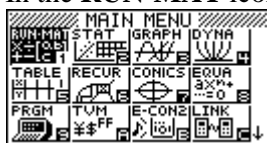
During the teaching of the calculus unit, either at NCEA level 2 or 3, make sure that the students have **Derivative** 'switched on'. From within any of the icons, SHIFT MENU for 'SETUP'. The default is for the **Derivative** to be 'switched off'.



Use the ▼ arrow and then **F2**, then **EXIT**.



In the **RUN-MAT** icon the Calculus tools can be found via **OPTN** then **F4** for **CALC**ulus.



OPTN



F4

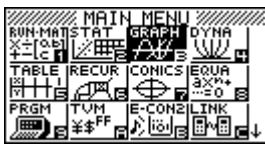


F6



F2

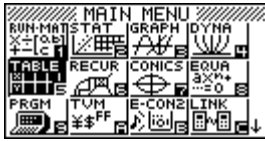
In the **GRAPH** icon the Calculus tools can be found via **OPTN** then **F2** for **CALC**ulus.



OPTN

F2

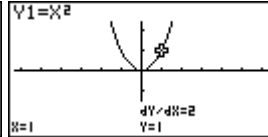
In the **TABLE** icon the Calculus tools can be found via **OPTN** then **F2** for **CALC**ulus.



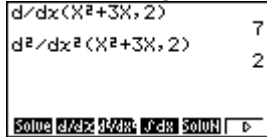
OPTN

F2

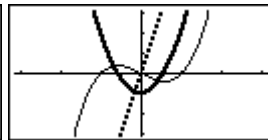
You can 'trace' a function and have the coordinates **and** gradient displayed on the screen.



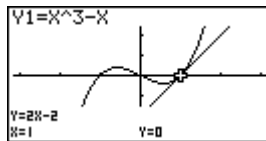
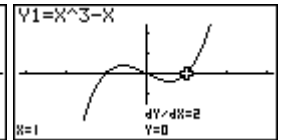
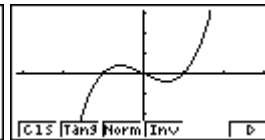
You can calculate the 1<sup>st</sup> and 2<sup>nd</sup> derivative value of a function at a given value for  $x$  on the screen.



You can draw the 1<sup>st</sup> and 2<sup>nd</sup> derivative function over a given domain on the screen.



You can calculate the equation of a tangent (or normal) of a function at a given coordinate on the screen.

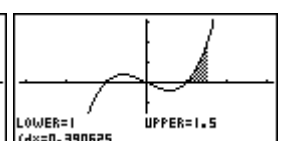
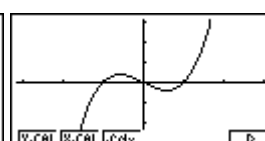
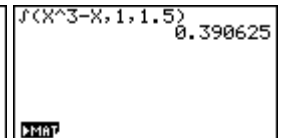
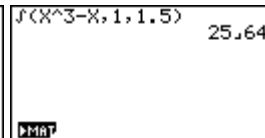


You can make a table of values.



X	Y1	Y'1
1	0	2
2	6	11
3	24	26
4	60	47

Integration in the RUN-MAT or GRAPH icon.



## 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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