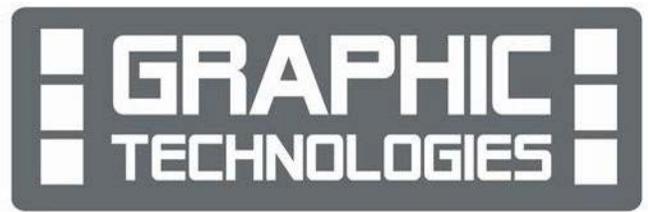# Graphical Times.
Volume 11, Issue 49, 2014.

Welcome back to term 1, 2014! We hope you have had a restful summer break! We hope you enjoy this newsletter. 'Back to School' (BTS) prices for 2014 were confirmed in November 2013 the offer is available to the 28th February 2014. The draw winner for the XJM240, 2500 ansi lumen, wide screen data projector from orders received during term 4, 2013 is in the newsletter.
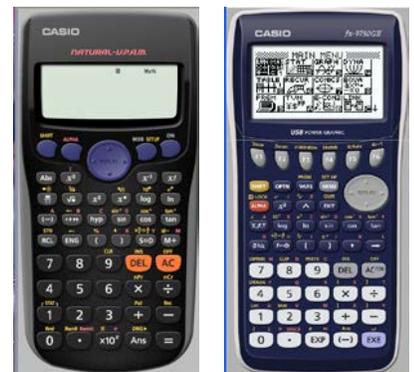
What's in here!

Included in this terms newsletter are:

Calculator activities for the Classpad, graphic and scientific calculators:

- **Worksheet for the Classpad and similar models: Renaming constructions and using-altering text**
- **Worksheet for the FX9750GII and similar models: Bootstrapping**
- **Worksheet for the FX82AU and similar models: Number magic**
- **Back to school pricing is valid until February 28th 2014**
- **Term 1 pricing valid from the 1st March 2014 until the end of term 1, 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 on this mathematics/statistics technology.

Classpad update.

The new ClassPad II [fx-CP400] released during 2013 and features a much larger, backlit screen than the previous models, while keeping the same functionality. Major differences on the handheld unit are that the 3D Graphing and Presentation applications have been replaced by E-Con EA200 for data logging. Connectivity is much easier, with the ClassPad II acting as a USB drive when plugged into either a PC or Mac.

eActivities are a great way to store formulas and procedures on ClassPad. eActivities can be downloaded and sent to the handheld model using a standard USB cable.

Programs can be written to extend the functionality of your ClassPad

Visit: http://www.classpad.com.au/index.html [Note: POA for the ClassPad II [fx-CP400]

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

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

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

(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 this initiative.

Details of the program can be uploaded from: www.casio.edu.monacocorp.co.nz

Graphic Technologies Specials for 'BTS'.

Some pricing specials for term1, 2014. Valid until 28th February 2014.

Product	# of Units	Price per unit (excl GST)
FX9750GII graphic calculator (monochrome) RRP $132.95	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 **New model - Special pricing**	NA	$200.00

Term 4, 2013 winner of the Casio XJM240 data projector.

The winning school is: Baradene College. David Merriman, the HOD will be receiving the schools prize in February. Congratulations – winning a XJM240, 2500 ansi lumen, wide screen data projector. The data projector is on its way to you. Enjoy!

See **http://www.casio-projectors.eu/euro/products/xjm240/** for the technical details and the Graphic Technologies pricing list of the types we stock.

Updating your school stationery pricing and information sheets.

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. Illustrated (right) 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 make sure that your schools stationery lists are updated for 2014.

Websites of interest.

http://www.charliewatson.com/casio/cpeActivity.php
http://www.charliewatson.com/casio/cpprograms.php
http://www.charliewatson.com/casio/cpaddins.php
http://www.charliewatson.com/casio/cpsheets.php
http://www.charliewatson.com/casio/cpends.php
http://www.charliewatson.com/casio/cpfunctions.php
http://www.charliewatson.com/casio/cplinks.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 and http://graphic-technologies.co.nz

ClassPad features.

The Taylor series… a **Taylor series** is a representation of a function as an infinite sum of terms that are calculated from the values of the function's derivatives at a single point, usually at $x = 0$.

Special features of the FX82AU Plus II.

Calculation of the median and quartiles.	Verification of equalities and inequalities.	
Greatest common divisor and *lowest common multiple.*	Prime factorisation.	

The 'Rule of Thumb' (ROT1)

Comparing 1/√n with 1.96×√(p×q/n) for p = 0.1, 0.2, 0.3, 0.4 and 0.5 and sample sizes from 5 to 900 then 1000 - 2100.
List 1 = sample size N, List 2 = 1/√N, List 3 = 1.96×√(P×Q/N) and List 4 = P.

	P = 0.1	P = 0.2	P = 0.3	P = 0.4	P = 0.5

You can make the call…

The big ideas for resampling and the bootstrap distribution.

Step 1: Resampling - sampling with replacement If we sampled *without* replacement, we would get the same initial sample data set numbers we started with, though in a different order!

Step 2: Bootstrap distribution. The sampling distribution illustrates the collection of all of the statistic from the many resamples taken from the original sample of the population. The bootstrap distribution gives information about the sampling distribution. Look at the **Shape**, **Center** and **Spread**.

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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