

Graphical Times.

Volume 14, Issue 56, 2015.



Welcome back to term 4, 2015! Hope that you had an enjoyable October break! Please find this term 4's newsletter and activities informative and the term 4 and back to school pricing, giving you and your students' significant savings on the RRP.

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: How many rectangles are there?**
- **Worksheet for the FX9750GII and similar models: Probably it's about 'Normal' probabilities**
- **Worksheet for the FX82AU+II and similar models: All Cubed Out!**
- **Term 4 and 'Back to School' pricing valid until 29th February, 2016.**

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 are being disadvantaged, a large number of schools have taking up the opportunity to up skill teachers and students in using these mathematics/statistics technologies.



Program to support the use of the FX82AU+II and FX9750GII.

Casio Education NZ 'Top Schools Program' is to support schools using the FX82AUplus II scientific and the FX9750GII graphic calculators. The goal of the programme 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 are offered in conjunction with Graphic Technologies in supporting this initiative.

Please make sure that your schools stationery lists are updated for 2016.

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

Classpad update.

The ClassPad II [fx-CP400] features a much larger, backlit screen than the previous models, while keeping the same functionality. Major differences for this handheld are the 3D graphing and presentation applications have been replaced by E-Con EA200 for data logging. Connectivity is much easier, and the ClassPad II acts as a USB drive when plugged into a PC. **eActivities** are a great way to store procedures and these can also be downloaded and sent to the handheld model using the USB cabling (SB-67). Programs can be written and downloaded to extend the functionality of your ClassPad II. eActivities, files and programmes can also be transferred from calculator to calculator using the SB-62 cabling. Visit: <http://www.classpad.com.au/index.html>

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

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Graphic Technologies Specials for Term 4, 2015 and 'Back to School'.




Some pricing specials for batteries, valid until the end of this term, 11th October only.

Product	Price per unit (excl GST)
FX9750GII graphic calculator (monochrome) RRP \$132.95	\$77.00
FX82AU plus II scientific calculator RRP \$33.95	\$17.00

New products:

Product	Price per unit (excl GST)
Class Wiz series FX570EX	\$59.00
Class Wiz series FX991EX	\$69.00
Class Wiz series FX82EX	\$37.00
Class Wiz series FX350EX	\$39.00

For information on these models please view at:

http://edu.casio.com/products/cwiz/fx991ex/		http://edu.casio.com/products/cwiz/fx570ex/	
http://edu.casio.com/products/cwiz/fx350ex/		http://edu.casio.com/products/cwiz/fx82ex/	

Term 3, 2015 - Casio XJM240 Data Projector Promotion.

The winning school is: **Ponatahi Christian School**. They will be receiving the schools prize for last terms promotion.

CASIO



Mercury-free, high-luminosity Hybrid Light Source

Features include:

- ecologically sound and energy saving
- a 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
- is the size of a ream of A4 paper!



Congratulations to M Schot at Ponatahi Christian School – the data projector is on its way to you. Enjoy!
Many thanks to all schools who purchased equipment, from Graphic Technologies, during term 3, 2015.

Websites of interest.

Classpad activities

<http://www.casioeducation.com/products/activities/2AF02BE1-A8B2-44E2-AEEA-72A561F21A36>

Graphic calculator activities

<http://www.casioeducation.com/products/activities/142EBF83-3E83-43FE-B29A-73B838EA0554>

Where did New Zealanders commute to in 2013?

<http://www.stats.govt.nz/datavisualisation/commuterview/index.html>

Interactive population pyramid for New Zealand. This population pyramid shows New Zealand's changing age-sex distribution over time. It delivers insight into our population history and what our future may look like.

http://www.stats.govt.nz/tools_and_services/interactive-pop-pyramid.aspx

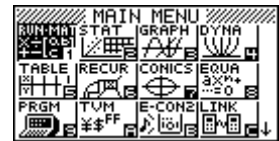
Worksheets downloaded off the web.

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, FX82AU+ii, FX9750Gii, FX9750G, FX9750G+, CFX9850GB, CFX9850GB+, CFX9850GC+, FX9750GA, FX9750GA+ and FX9750Gii and the ClassPad300, 300+, 330A and 330A+ series. 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>

Activities – Probability (Normal Distribution)

Select **RUN/MAT** mode from the **Main Menu** by using the arrow keys to highlight the **RUN/MAT** icon or by pressing 1.



OPTN key



F6 key



F3 key



F6 key



Note: P(calculates the Standardised Normal Distribution probabilities from the **LEFT** tail.

Q(calculates the Standardised Normal Distribution probabilities from the **MEAN** (μ) = 0.

R(calculates the Standardised Normal Distribution probabilities from the **RIGHT** tail.

Example:

- Calculate Prob($0 < Z < 1.5$)
- Calculate Prob($Z < -2.5$)
- Calculate Prob($1 < Z < 2.75$)
- Calculate Prob($Z > -1.86$)

Answer:

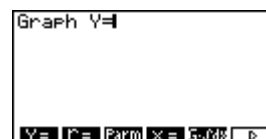
(a) $Q(1.5) - Q(0)$
0.4331927987

(b) $P(-2.5)$
0.00620966532

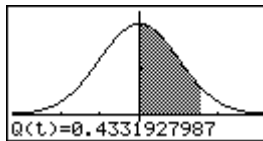
(c) $Q(2.75) - Q(1)$
0.1556754907

(d) $R(-1.86)$
0.968557237

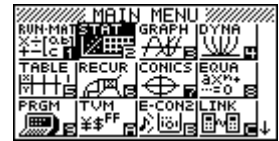
To get the Normal Distribution graph drawn and the probability calculated, then use either **Graph Y = P(** , **Graph Y = Q(** or **Graph Y = R(** . [Shift] [F4] for Sketch [F5] for Graph then [F1].



Example: Sketch and find the probability $\text{Prob}(0 < Z < 1.5)$.



Inverse Normal Distribution Calculations. Select **STAT** mode from the main menu by using the arrow keys to highlight the **STAT** icon or by pressing 2.

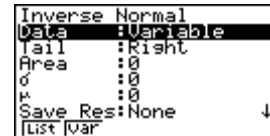


From the **MAIN MENU** select **STAT** mode then:

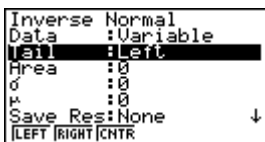
[F5] for **DIST**ributions [F1] for **NORMAL** Distribution [F3] for **Inverse Normal** Distribution.



Change from **List** to **VARIABLE** [F2].



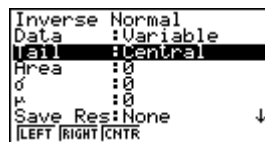
There are 3 settings:



LEFT

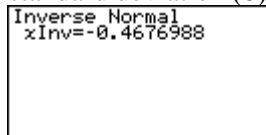
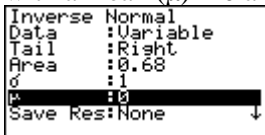


RIGHT

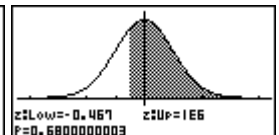
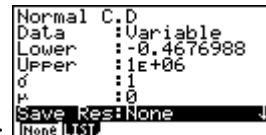


CENTRE

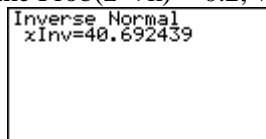
Example 1: Find the z-score value (k), where the $\text{Prob}(z > k) = 0.68$, with a mean (μ) = 0 and standard deviation (σ) = 1.



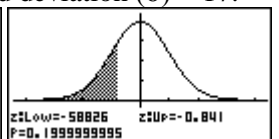
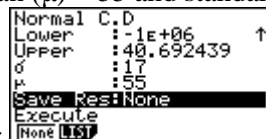
Check:



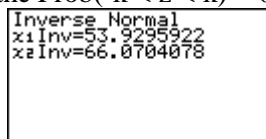
Example 2: Find the z-score where the $\text{Prob}(z < k) = 0.2$, with a mean (μ) = 55 and standard deviation (σ) = 17.



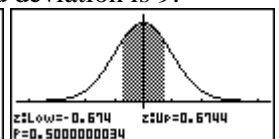
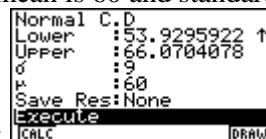
Check:



Example 3: Find the z-score where the $\text{Prob}(-k < z < k) = 0.5$, the mean is 60 and standard deviation is 9.



Check:



A last word!

Well again, that's all I can fit onto the 4 pages! Enjoy term 4 and the upcoming summer break! 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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