

# Graphical Times.

## Volume 9, Issue 36, 2010.



Welcome back to the start of the last term for 2010! We hope you have had a restful break! We hope you enjoy the read in this newsletter, the last for 2010. Later in the term we will be informing you of the back to school offers. 'Back 2 School' for 2011 will be available in November. Another mailout of this pricing will happen when the prices for B2S 2011 are confirmed.

### What's in here!

Included in this terms newsletter are:

- Calculator activities for the Classpad 330+ and Casio graphic calculator
- Worksheet for the Classpad 330 +: Determining the general term of a recursion expression.
- Worksheet for the FX9750GII and similar models: How can I do this on the graphic calculator?
- Term 4, 2010 pricing list.

N.B. The 2010 Graphic Technologies Catalogue is available on request. Please email us @ [graph.tech@xtra.co.nz](mailto:graph.tech@xtra.co.nz), to receive your free copy.

### GST rising to 15%.

1<sup>st</sup> October (term 4) signaled a rise in pricing that is adjusted for the GST increase from 12½ % to 15%. We still intend to have the lowest pricing to support schools and provide opportunities to access great Casio products.

### 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 your classroom practices.

### Worksheets downloaded off the web.

Visit Monaco Corporation or Graphic Technologies website 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® FX9750Gii, FX9750G, FX9750G+, CFX9850GB, CFX9850GB+, CFX9850GC+, FX9750GA+ and FX9750Gii models of graphical calculators and the ALGEBRA 2.0. There are 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.

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

### Data projectors

We are pleased to have two **NEW** products added to our range of Casio products. The XJA130 and XJA145 Casio projectors models have been included in our pricing list.

#### 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
- USB 2.0 for PC-free presentations [XJA145]
- 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!

Data projector XJA130 <b>New product!</b>	\$1800.00
Data projector XJA145 <b>New product!</b>	\$2500.00

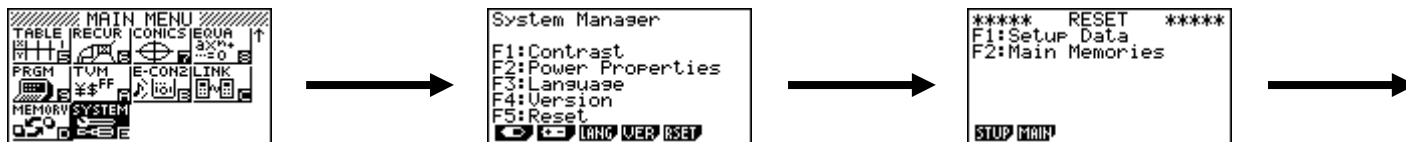


Mathematics Department Cycle [Pass it on to . . . ]

	→		→		→		→		→	
	→		→		→		→		→	

# Resetting the memories of the FX9750Gii for the Mocks and November NCEA examinations.

From the MAIN MENU screen enter 'SYSTEM' Press [cos], then [F5] for 'Reset' and [F2] for 'MAIN'.



The final prompt is [F1] for 'Yes'.



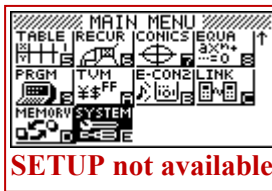
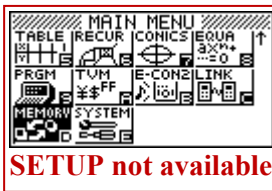
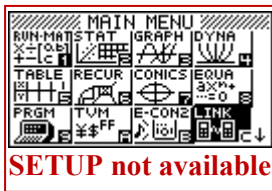
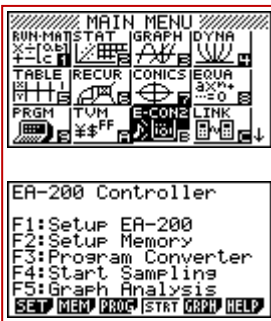
Pressing 'EXIT' closes the prompt and takes you back to the RESET window.



This takes the calculator back to the manufacturer's specifications when initially purchased. This means that the SETUP are the following for each ICON.

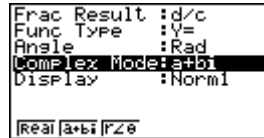
As you enter each icon press [SHIFT] [MENU]

			<b>SETUP not available</b>	



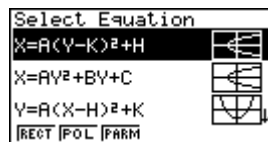
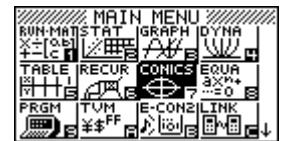
**Points to note:**

- Year 11 students need to change from radian measure to degrees. [SHIFT] [MENU], then ↓ to ‘Angle’ and select **Deg** [F1]. This can be done in any of the icons that have **Angle** in the **SETUP** and will flow into all of the other icons too.
- Year 12 and 13 students need to make sure that the derivative is turned on. This can be done in either the **RUN**, **GRAPH** or **TABLE** icons and will flow into all of the other icons too.
- Year 13 students doing Calculus. The default setting for **EQUA** is ‘Real’, so needs to be changed to ‘a + bi’ – Complex mode.

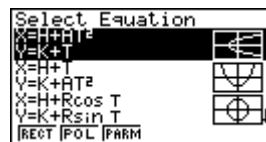


**The Conic icon in the FX9750Gii**

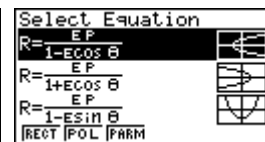
This area has been enhanced when comparing with the preceding models. Entering into this icon from the **MAIN MENU** then selecting either [F1] or [F2] or [F3] gives you the choice of the 3 formats used in the NCEA level 3 Calculus course.



**Rectangular form**

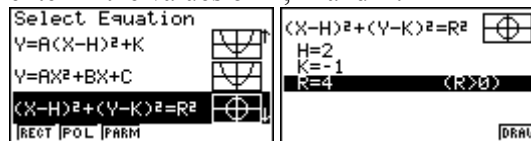


**Polar form**

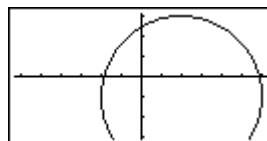


**Parametric form**

**For example:** Describe features of the equation  $(x - 2)^2 + (y + 1)^2 = 16$   
 Select the appropriate conic section and enter in the values of H, K and R.

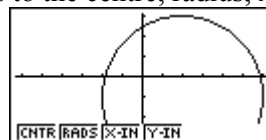


Make sure you have an appropriate domain and range to work with.

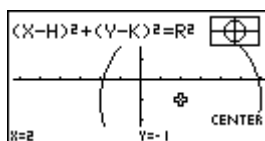


Draw the graph of the circle.

Now using **G-Solve** [SHIFT] [F5] you have access to the centre, radius, x- and y-intercepts.

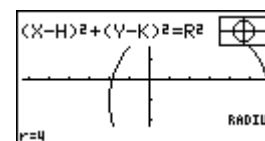


**Centre:**



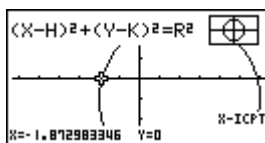
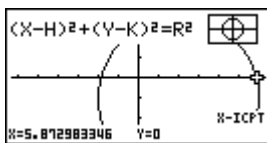
Centre = (2, 1)

**Radius:**

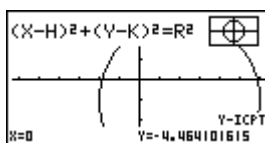
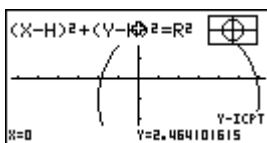


Radius = 4 units

X-intercepts:



Y-intercepts:



## EA-200 Data logger and EA-2 Motion Sensor.

These have been very popular and we have only 3 of each left. These can connect to the graphic calculator (or ClassPad) and we are offering a 63% saving purchasing these accessories singularly or a huge 69% discount on these two accessories when purchased together (**While stocks last, so be quick!**). The EA200 can connect up to 7 graphic calculators (or ClassPad) for data transfer from probes and motion sensor.

[N.B. Both of these models have a RRP of \$799.00 each.]

### EA-2 CASIO MOTION SENSOR

Emits Ultrasonic pulses  
Detects Pulses returned  
Can connect to EA200

### EA200 CASIO DATA LOGGER

Data Analyser  
Includes Temperature, Optical and Voltage Probe  
Data collection at up to 50,000 points per second

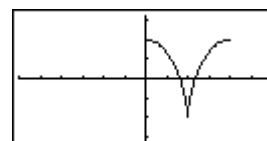
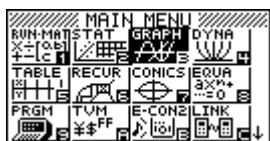
Product	EA-200 Data Logger	EA- 2 Motion Sensor	Both units
			
Price (exclusive GST) per unit	\$300.00	\$300.00	\$500.00

## A problem to finish on!

If you drew a dot on the edge of a wheel and traced the path of that dot as the wheel rolled one complete revolution along a straight horizontal line, then the path formed would be called a cycloid. What is the length of the points path that is formed by one complete revolution? [N.B. Assume the wheel has a radius of 1 unit.]

$$x = t + \sin(t)$$

$$y = \cos(t)$$



## 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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