

Graphical Times.

Volume 10, Issue 37, 2010.



Welcome back to the start of the term for 2011! We hope you have had a restful break! We hope you enjoy this newsletter.

'Back 2 School' prices for 2011 were confirmed in November 2010 the offer is available to the 28th February 2011. 2011 brings with it NCEA level 1 standards realignment with the revised curriculum (2007), Rugby World Cup, planning for NCEA level 2 standards realignment and NZAMT 12 conference in Dunedin!

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 +: Eulers line on the ClassPad
- Worksheet for the FX9750GII and similar models: Turning triangles into squares
- Term 1, 2011 pricing list
- Back to school 2011 pricing list
- FX 991ES Back to school 2011 offer.

N.B. The 2011 Graphic Technologies Catalogue is available on request. Please email us @: graph.tech@xtra.co.nz, to receive your free copy.

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 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.

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

Data projectors

These two **NEW** products, the XJA130 and XJA145 Casio projectors, added to our product range last year have been a 'hit'. If you are thinking of replacing current data projectors or looking for an additional unit(s) to meet your schools requirements please consider either of these two units. 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
- 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 New product!	\$1750.00 + GST
Data projector XJA145 New product!	\$2500.00 + GST



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

	→		→		→		→		→	
	→		→		→		→		→	

AAA batteries and Back up batteries [CR2032 Lithium].

The graphic calculators have a back up battery to save data if the 4 AAA batteries fail. These have a life span of 2 - 4 years, dependent on usage. It is good practice to replace these rather than wait for them to fail also, particularly if you operate class sets or hire them out to students for the academic year. **Graphic Technologies** sell batteries and will have special pricing operating over term 1 for bulk orders. **See Back to school pricing list or the Term 1, 2011 pricing list.**

The 4 AAA batteries generally have a life span of 1 - 2 years, dependent on usage. It is good practice to replace these also than waiting for them to fail. If your school is having mock examinations this term or the beginning of term 4 then it would be good practice to change them in preparation and always have a spare set to put in the calculator just in case the 'Low battery' screen reading displays during the examinations. **Graphic Technologies** sell these batteries and have a special pricing operating in term 3 for bulk orders.

Websites of interest...

Watching the world go by!

<http://www.worldometers.info/>

Some probability interactive:

<http://www.mathsonline.co.uk/nonmembers/resource/prob/index.html>

This census education resource came out in October 2010, and we hope has got to primary/intermediate/junior secondary resources. Do not forget it is Census year, Census day is set for Tuesday 8th March 2011.

http://www.stats.govt.nz/tools_and_services/services/schools_corner/census/2011-census-education-resource.aspx

An excellent watch!

<http://www.youtube.com/watch?v=jbkSRLYSojo>

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

These have been very popular and we have only 2 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

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

CASIO classroom support information.

What's New? The release of ClassPad330 OS Ver 3.05

Main features

Increased ways to use financial calculations

New quartile calculation method

Integral, derivative and limit now accept vector valued functions

Please visit the following sites to get the latest information <http://edu.casio.com> and

http://edu.casio.com/products/classpad/cp_v302/ to download the latest resources

1. OS Update Ver 3.05 for ClassPad series

This software can be downloaded by going through the following CASIO Educational website pages.

(A) Go to:http://edu.casio.com/products/cp_soft/cp_agreement.html

(B) Click [Accept]

(C) Select "OS Update for Ver.3.05"

- (D) Click [NEXT]
- (E) Click "*Version 3.05" to download the file.

2. Program-Link software FA-CP1 Version 1.03 for ClassPad series

This software can be downloaded by going through the following CASIO Educational website pages.

- (A) Go to: http://edu.casio.com/products/cp_soft/cp_agreement.html
- (B) Click [Accept]
- (C) Select "Support Software"
- (D) Click [NEXT]
- (E) Click "*Version 1.03" to download the file.

3. Screen Capture Version 1.01 for ClassPad series

This software can be downloaded by going through the following CASIO Educational website pages.

- (A) Go to: http://edu.casio.com/products/cp_soft/cp_agreement.html
- (B) Click [Accept]
- (C) Select "Support Software"
- (D) Click [NEXT]
- (E) Click "*Version 1.01" to download the file.

N.B. This software are compatible with Windows 7 32/64bit.

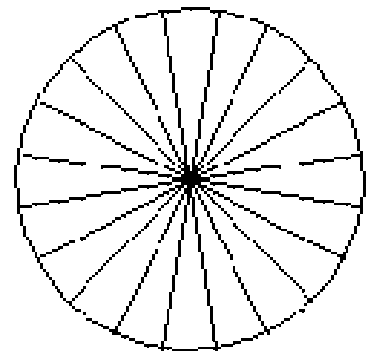
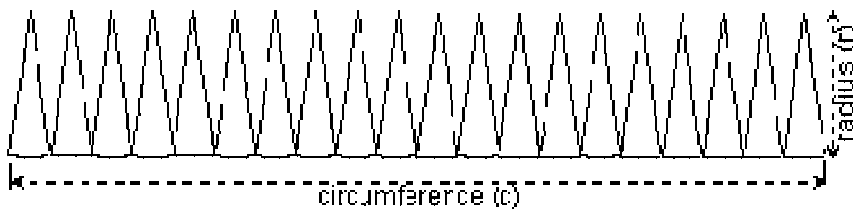
A problem!

When does $x^y = y^x$, with the constraint that $x \neq y$? Does it only work for $2^4 = 4^2$?

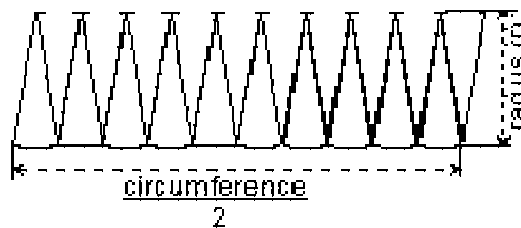
Why is the AREA of a CIRCLE πr^2 ?

Cut the circle into sectors.

Now roll it out into a line:



Now cut the line in half and put the second half upside-down on the first half.



Now it is a **RECTANGLE** (approximately)!! So the area of this rectangle is...

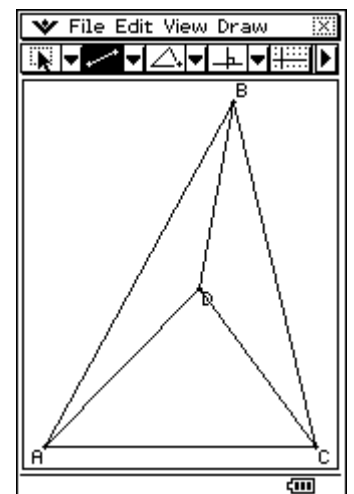
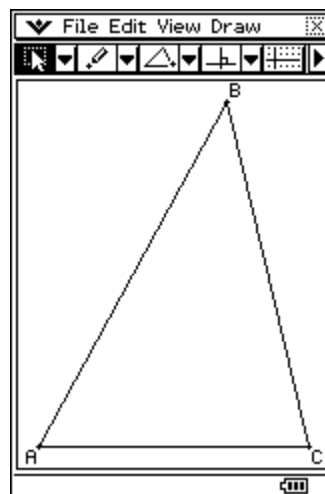
A problem to finish on!

Fermat's Problem:

In any given acute-angled triangle ABC, locate a point inside this triangle such that the distances from the points A, B and C to D, has the smallest possible sum.

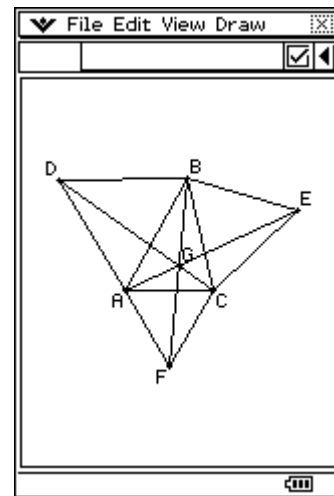
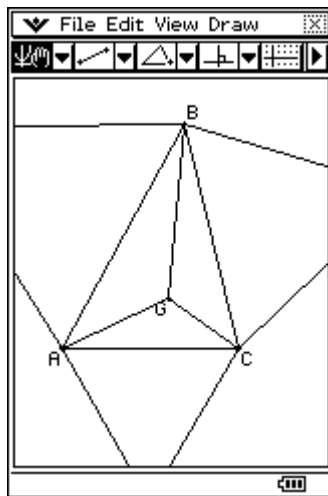
Need to minimize the sum, $S = AD + BD + CD$.

Construct the line segments AD, BC, CD, as shown in the diagram, where point D is required, so that the distance $AD + BD + CD$ is a minimum.



Construct equilateral triangles with the bases of each equilateral triangle being AB, BC and CA respectively. Construct line segments DC, AE, BF, as shown in the diagram below. Point G is the point required.

Note: Each of the three angles AGB, BGC and AGC are equal, i.e. $\angle AGB = \angle BGC = \angle AGC = 120^\circ$ and hence the smallest distance, $S = AG + BG + CG$.



A reminder!

A reminder....
You and your Maths Dept
are invited to...

NZAMT



Tuesday 19th July to Friday 22nd July.

A great educational opportunity for all those involved in Mathematics teaching, as well as the chance to experience some of the many attractions that Dunedin has to offer. Every two years the Mathematics Teachers of New Zealand have a wonderful professional development opportunity through this NZAMT Conference. This conference provides educators at all levels from Early Childhood through to Tertiary with the opportunity to get together and share ideas amongst themselves, and to learn from experts. Quality overseas and local presenters will be sharing their ideas and expertise. It is also good to hear what the teachers in neighbouring classrooms are doing and to learn from their experiences. Trade displays and sponsorship offers give educators wonderful opportunities to keep up with current trends in classroom resources which assist in good teaching practice. It is expected that over 600 teachers will avail themselves of this opportunity so do come along and enjoy the learning and the fun that such a conference can give to all.

More information via the NZAMT website: <http://www.nzamt.org.nz>.

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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