Dear H.O.D.

So, you may be thinking of integrating technology into your classroom practice this year or furthering what you have already started?

Getting started with the FX9750G + or the CFX-9850 GB + models

Here are some brief notes to assist you.

Turning the calculator ON
- Press the **AC/ON** key.

When you turn your FX9750G or CFX 9850 on, you will see the main menu screen. Each icon on the main menu screen stands for a **MODE** on the calculator.

Below is a short summary of the main purpose(s) of each mode.
> **RUN** – The scientific calculator
> **STAT** – For statistical calculations
> **MAT** – To enter, and perform row/column operations upon, matrices
> **LIST** – To manipulate lists (can also be done in STAT mode) or change List Files.
> **GRAPH** – To graph and analyse functions, parametric graphs and polar graphs.
> **DYNA** – To look at the effect of a changing constant on the graph of a function.
> **TABLE** – Will produce a table of values for any function.
> **RECUR** – To produce tables and graphs from and analyse recursive relations.
> **CONICS** – To graph and analyse conics.
> **EQUA** – Will solve simultaneous equations and polynomials. Also contains an equation solver to find the value of any pronumeral in an equation.
> **PRGM** – Program mode. Use this mode to write programs. Stores and executes programs also.
> **TVM** – <u>T</u>ime <u>V</u>alue of <u>M</u>oney. For financial calculations.
> **LINK** – Allows the calculator to link to a PC or another calculator to transfer programs and data.
> **CONT** – Contrast. Adjusts the contrast and colour balance.
> **MEM** – Memory. Shows memory usage and allows you to reset individual memories or the entire calculator. Note that resetting the calculator will delete stored data and programs.

The Function Keys – F-Key(s):
> To use the calculator effectively, it is important to understand how the function keys work, that is the F1 to F6 keys. These keys actually correspond to options that appear along the bottom of the calculator screen once a mode has been entered. This is illustrated in the screen shown opposite which is in the GRAPH mode. These functions keys are continuously used and you should be very familiar with how they work.

F1 F2 F3 F4 F5 F6

Other important keys:
(-) is the change of sign key and should only be used for this purpose

◁ △ ▷   The four arrow keys to move the cursor around the screen
  ▽

EXE should be pressed to enter a mode and also after typing information into the calculator
**EXIT** will take you back a step
MENU will take you back to the main menu

The graphical calculator has identical capabilities to that of a scientific calculator. Casio Scientific and Graphic Calculators use S-VPAM (Super Visually Perfect Algebraic Method), that is, 'how you say or write it, is how you enter it'. For example, the square root of 12 is entered by **SHIFT** then **X²** followed by 12, i.e. √12.

We want you to be able to offer your students a significantly richer mathematics learning experience integrating technology?

The aim of *Graphic Technologies* is to provide **teachers and students** with the confidence to use Graphics calculators in the New Zealand Classroom. Whether this is achieved by teacher training or student workshops or providing assistance in the classroom with resources or curriculum guidance. For teachers and students we currently offer 200+ classroom ready resources available from www.monacocorp.co.nz/casio.

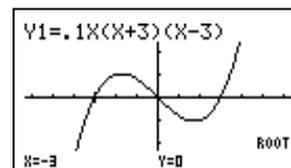## Number patterns – Arithmetic sequences and Geometric sequences
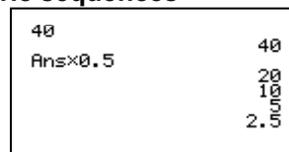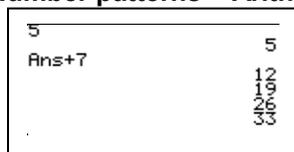

Drawing a Function
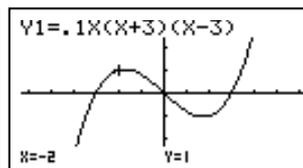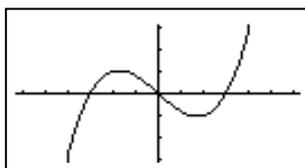
G-Solve

To access **G-Solv** press **SHIFT** then **F5**. With G-Solve, you can find roots, maximums, minimums, the y intercept, intersection points, as well as perform integrations. Press **F1** (ROOT) to find the first root of the equation. To access the second and third roots, press the right arrow key.
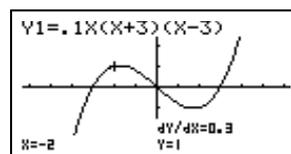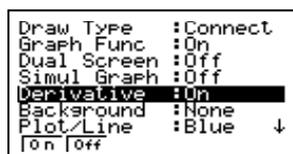

Integration

Press **G-Solv** press **SHIFT** then **F5** then **F6** (the continuation key) and finally ∫dx **F3**. Use the left arrow key to set the lower limit at X=-3 then press EXE. Set the upper limit at X=0 and press **EXE**.
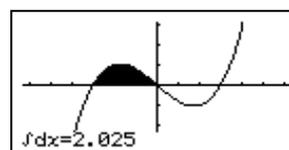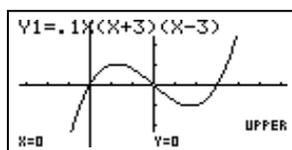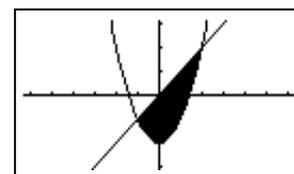

Finding the gradient of the tangent at a point

Inequalities

From the text screen in the GRAPH mode, press TYPE (F3) then the continuation key (F6) and the options for sketching inequalities will appear on the screen. Press Y> (F1) and note the change at the top of the screen. Enter the equations as shown below, draw and observe the region satisfied by the two inequalities.

Sketching Trigonometric Function, Dynamic Graphing, Table Mode, Statistics and analysis of probability distributions such as Normal, Poisson and Binomial to name a few available on these calculators, Comparing data sets with box and whisker plots (or other types of statistical graph usage), Equation solving and complex number operations, Basic Programming are other mathematical opportunities available to you and your students with this technology.

Just a few mathematical concepts to whet your appetite to what graphic calculators have to offer the student in their exploration and mathematical journey. Most secondary schools in New Zealand have begun integrating this technology into their senior classes successfully and some a re now offering the technology to their junior school so that more mathematical discovery can be initiated and the navigation around the calculator become second nature quickly and does not interfere with learning about N.C.E.A. achievement and unit standards.

Please find enclosed some information regarding graphical calculators and please feel free to contact me if you require more information and assistance.

Kind regards
Derek Smith
GRAPHIC TECHNOLOGIES
73 VIEWMONT DRIVE
LOWER HUTT
PH: 04-569 1686
FAX:04-569 1687
graph.tech@xtra.co.nz