Quick Casio cfx-9850G Plus calculus keystroke guide

1 Press [MENU] [1] to select Run mode for normal computations.
Note that, after executing a command with [EXE], ◀ and ▶ act as replay keys.

2 [OPTN] provides on-screen menus for many commands. The six function keys, [F1] to [F6] at the top of the keyboard execute the corresponding on-screen commands. For example, [OPTN] [F4] (CALC) puts the Calculus menu on the screen.
[F6] turns the page, while pressing [EXIT] backs up the (heirarchical) menus.

3 The numerical calculus commands each demands that a function of *X* is involved, and each has its own syntax, as follows:

First derivative:	d / dx(*function,point*)
Second derivative:	d^2 / dx^2(*function,point*)
Definite integral:	∫(*function,lower limit,upper limit*)
Relative min:	FMin(*function,left,right*) where (*left,right*) defines the interval
Relative max:	FMax(*function, left,right*)
Summation:	∑(*function,variable,start,end,increment*) *increment* optional if it's 1

Two alternative numerical integration methods are available, that of Gauss-Kronrod and Simpson's Rule. Press [SHIFT] [MENU] (SET UP), and highlight *Integration* to choose between these. In most practical circumstances, the choice is immaterial, although Gauss-Kronrod is preferable for some extreme cases. Convergence for either method can be adjusted, at the expense of speed.

4 Press [MENU] [5] to select Graph mode for graphing. Enter functions (of *X*) and graph them with [F6] (DRAW). Set the viewing window with [SHIFT] [F3] (V·Window).

5 Press [MENU] [7] to select Table mode for tabulation. Enter a function. Press [F5] (RANG) to enter the desired range and then [F6] (TABL) to produce the table

6 A derivative trace is available for both Graph and Table modes.
Press [SHIFT] [MENU] (SET UP), ▼▼▼ and turn *Derivative* ON with [F1]. When graphs are traced, derivatives are shown as well as coordinates. In Table mode, an extra column of values is provided, showing derivatives.

7 Derivative functions (of existing functions) can be graphed or tabulated.
E.g., define Y2 = d / dx(Y1,X) to define Y2 as the first derivative of Y1. The Y symbol must be obtained with [VARS] [F4] [F1] for this purpose. The derivative symbol is [OPTN] [F2] [F1].
It may be useful to graph derivative in a different colour

8 A tangent to a graph can be drawn at a point. (It's a good idea to turn on the derivative trace first.) When the graph is showing, press [SHIFT] [F4] and then [F2] (Tang). Trace to the desired point and press [EXE]. Several tangents can be drawn in succession, but all will be removed if the graph is redrawn. Normals to a graph can be drawn in a similar way, using [F3] (Norm).

9 In Run mode, an integral graph function is available with [SHIFT] [F4] (Sketch) followed by [F5] (G·∫dx). The syntax is Graph ∫*function,lower limit, upper limit*.
The function is graphed and the integral shaded and evaluated.

10 When a graph has already been drawn, relative extrema and integrals are also available through the *Graph Solve* menu, with [SHIFT] [F5].