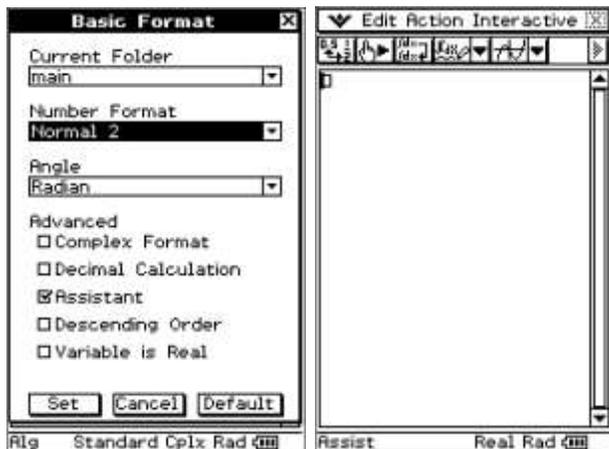
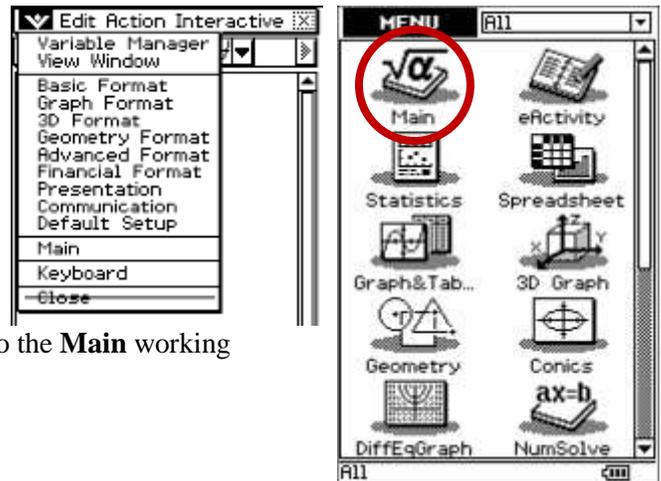


Using the 'Algebra assistant'

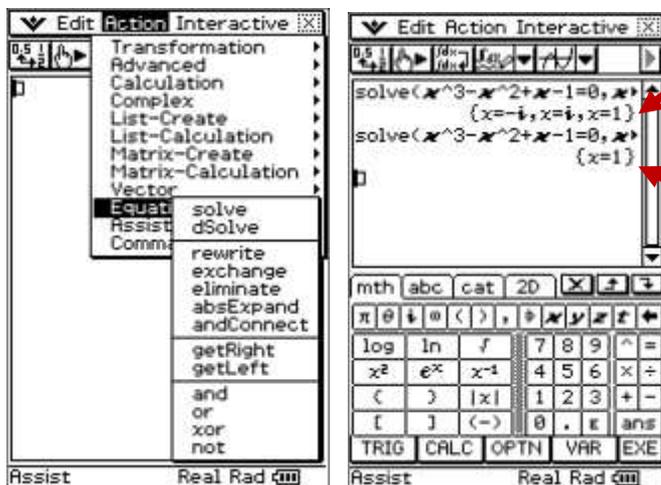
This resource was written by Derek Smith with the support of CASIO New Zealand. It may be freely distributed but remains the intellectual property of the author and CASIO.

Solving algebraic equations or expanding brackets requires knowledge and application of 'BEDMAS' and 'SAMDEB'. To change the setting of the ClassPad to 'assistant mode, tap the stylus on the  symbol (top left), then 'Basic Format' and tick or untick the required boxes. Using assistant mode means that you have to instruct the calculator to **expand**, **factorise**, **combine** and **simplify** for example.

Select 'Basic Format' and tap the stylus on the Assistant box (as shown below), then tap 'Set' and you will then be returned to the Main working window.



Note 1: 'Complex Format' will give complex solutions e.g. Solve($x^3 - x^2 + x - 1 = 0, x$) will yield: $\{x = -i, x = i, x = 1\}$, otherwise if the box is unticked, the only solution given will be $\{x = 1\}$, i.e. only **Real** solutions.



Complex Format ticked.

Complex Format unticked.

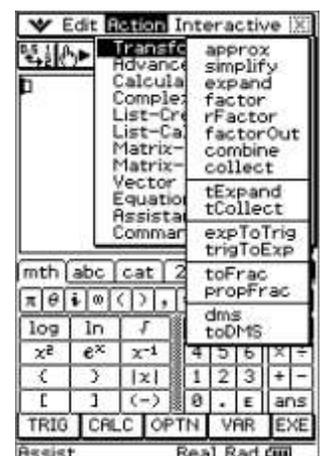
Advanced
 Complex Format

Advanced
 Complex Format

Note 2: Normal 2 holds onto fractional and surd (exact) calculations for longer than the Normal 1 setting.

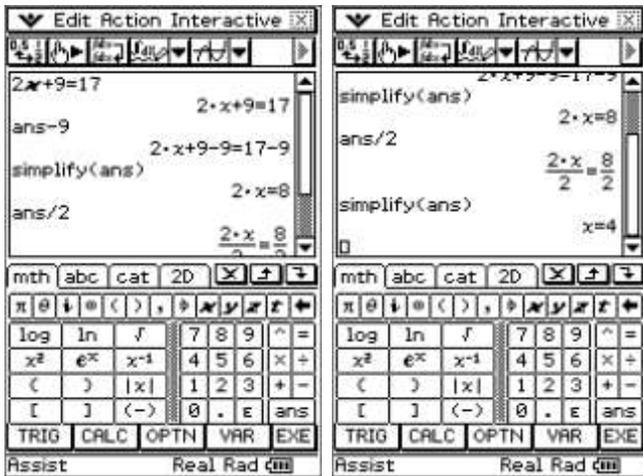
Algebraic commands on the ClassPad (drop down menu) via 'Action'

Using the algebraic commands (see screen shot on left), you will see the changes (superseding iterations of solving a problem) successively down the working window each time [EXE] is pressed.



Example 1: Solve $2x + 9 = 17$

Try: Solve $5x + 3 = x - 1$



The commands 'simplify' and 'ans' are used here to yield the solution $\{x = 4\}$.

Example 2: Expand and simplify $(x + 9)(x + 2)$

Try: Expand and simplify $(x - 3)(x - 5)$



The commands 'expand', 'combine' and 'ans' are used here to yield the solution $18 + 11x + x^2$.

Note 3: With 'Descending Order' ticked the calculator (Basic Format) will place algebraic expressions in ascending powers of the variable and the constant (numeric) will show at the end (right) of the expression. If unticked, then ascending order prevails.

