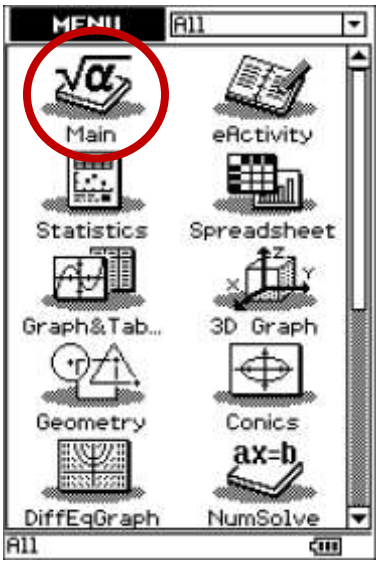
Rearranging equations.



This activity links the Main window together by using the commands to interact the algebraic equations

Changing the subject of a formula can be challenging! BEDMAS is essentially completed in the reverse order with the target variable identified and SAMDEB prevails.

For example, we know the area of a circle and want to find its radius. We rearrange the formula for the area of a circle to make the radius the subject.

The area of a circle (A) is πr^2. So, $A = \pi r^2$.

Dividing both sides by π gives: $\frac{A}{\pi} = r^2$

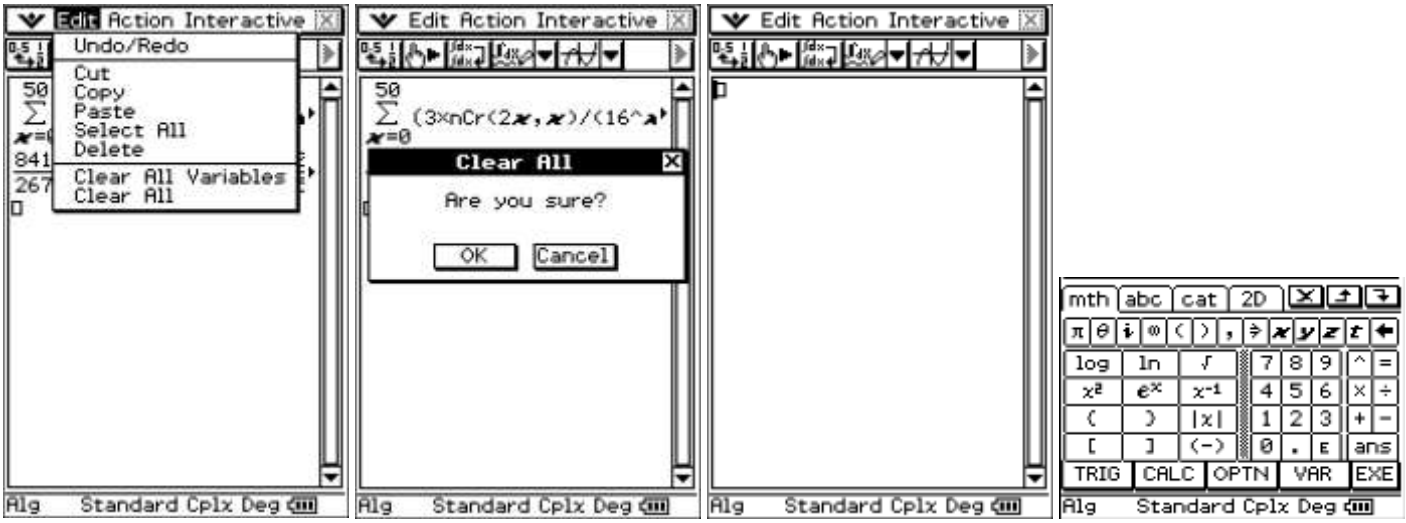
Then taking the square root of both sides gives: $r = \pm\sqrt{\frac{A}{\pi}}$

Because we are dealing with a physical measurement we can ignore the negative sign to have $r = \sqrt{\frac{A}{\pi}}$

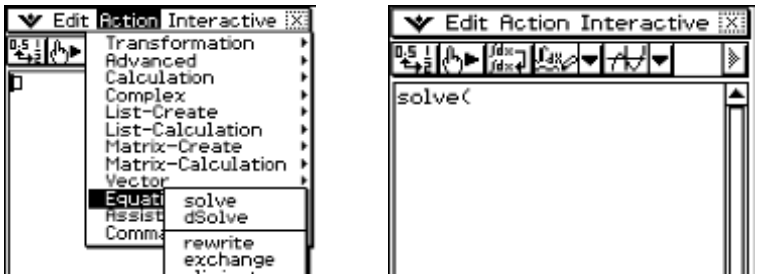
Enter the **MAIN** icon from the **MENU**

Clear any work you have so that the working area is 'clean select '**Clear All**' and tap on '**OK**'.

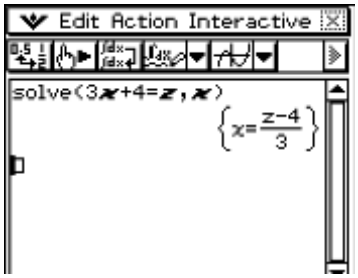
Remember that you can use the soft keyboard to enter the equations into the workspace (Press the Keyboard Button).



To rearrange use '**solve**' which is accessed via the drop down '**Action**' then '**Equation/Inequality**' and tap on '**solve**'. Then enter the equation followed by a comma then the variable (letter).

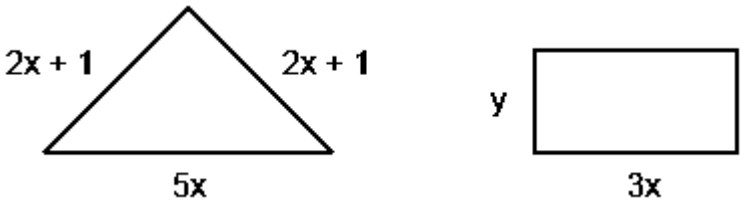


Example: For the equation $3x + 4 = z$, make x the subject.



Using your Classpad to …

Problem 1: The triangle and rectangle have equal perimeters.



This give: $(2x + 1) + (2x + 1) + 5x = y + 3x + y + 3x$

which simplifies to: $9x + 2 = 6x + 2y$

(i) Rearrange the formula to make 'x' the subject.

(ii) Rearrange the formula to make 'y' the subject.

Problem 2: A circular pond is inside a square shaped lawn. The area (A) of the lawn is given by $A = 4x^2 - \pi x^2$
Rearrange the formula to make 'x' the subject.

Problem 3: Rearrange the formula $2x^2 - 3x - 4 = 0$ to make 'x' the subject.

Problem 4: Make 'a' the subject of the formula: $s = \frac{a}{4} + 8u$.

Solutions: