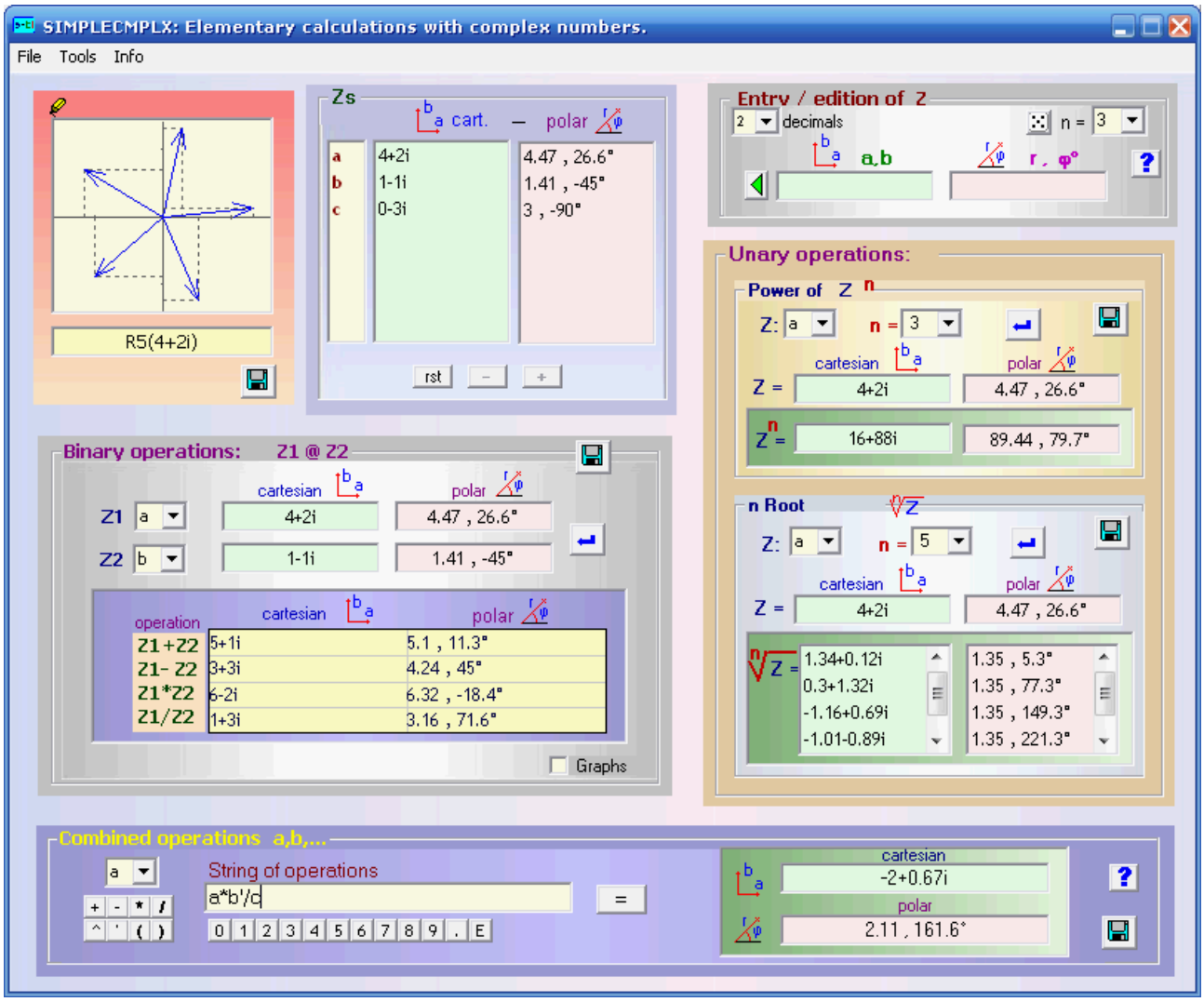
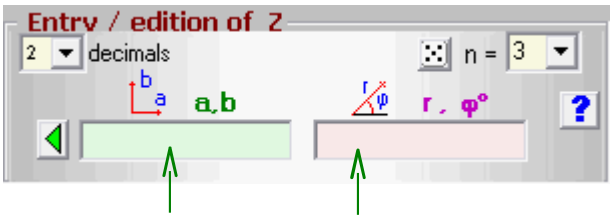
SimpleCmplx: Elementary calculations with complex numbers



1. Entry / generation, edition of complex numbers

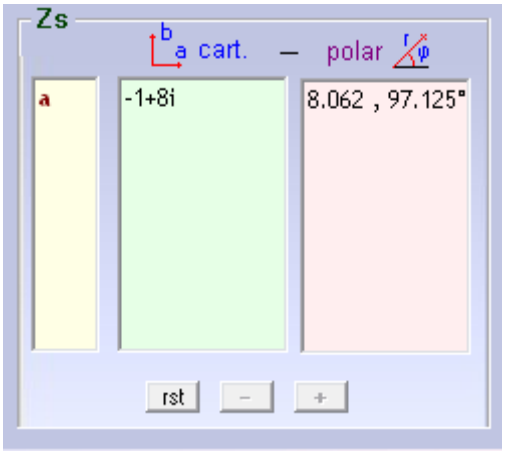
Entry:



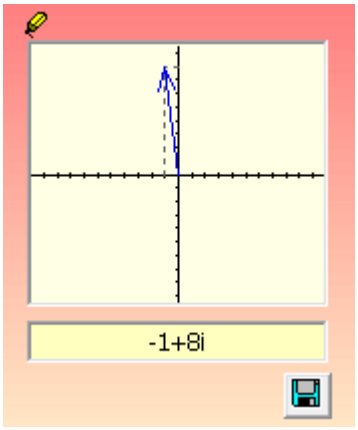
It can be in cartesian (a,b) or polar (r,φ) modes and components must be separated with *comas* or *spaces.*

Then click on or **return** in the keyboard.

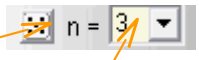
The complex is added to the list of available complex numbers and identified with a letter.



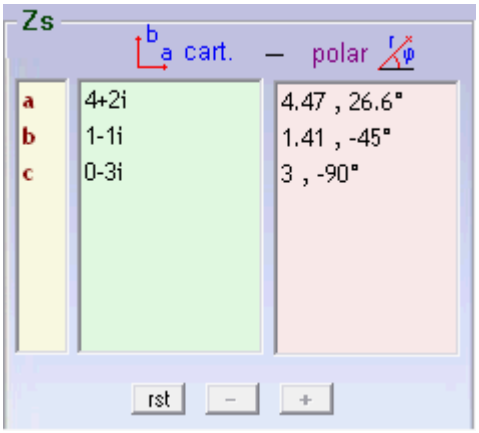
Its graph is shown also.



Generation of n random complexes:



Clicking in the dice button **n** (selected from the list)



random complexes are generated and direct added to the available complex numbers list.

Clicking in any complex number selects it and then you can:

Modify (edit) it: in the "Entry textboxes" and reincorporate it with **return** or

Eliminate it: with button or pressing **Supr**

Or deselect it, to enter a new complex, by means the button.

The whole list may be reseted clicking on the rst button.

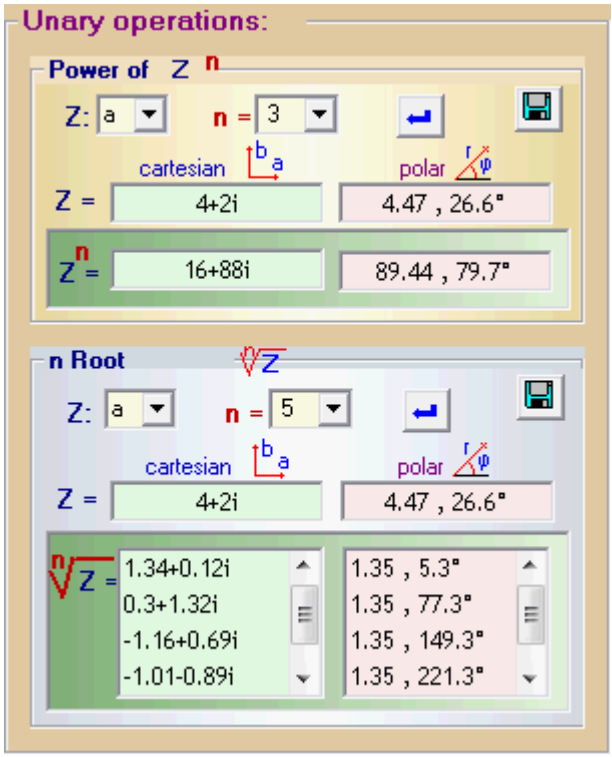
Note: Only the complexes of this list can be used in the next operations.

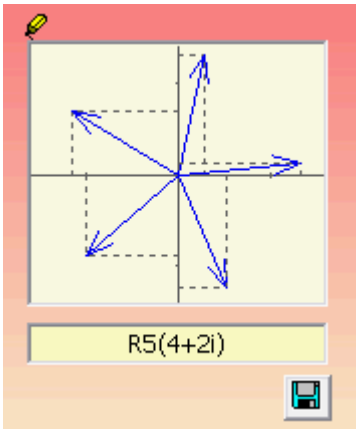
2. Operations :

2.1. Unary operations: raising to a power and root of index n

Should be selected:

- The identifier of the complex (a,b,…) from the correspondig list (Z:...).
- The exponent (for the power) or the index (for the root) from the lists " **n =** "





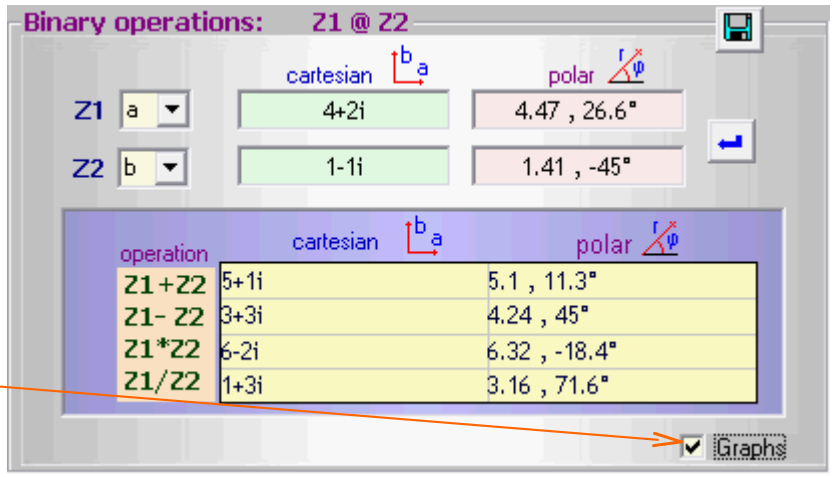
2.2. Binary operations: addition, subtraction, product and division

Operands are selected from the lists **Z1** and **Z2**

Results of the operations are shown at the table

Graphs: they are shown/hide with the option checkbox

They can be resized with the mouse or maximized for more detail.



2.3. Combined operations

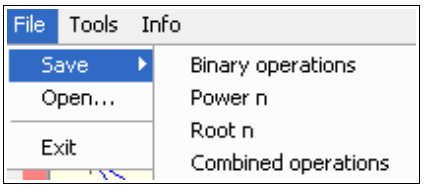
The string of operations can be edited with the keyboard r with the attached buttons

^ : power ' : conjugated (ex: a' = a conjugated), E: 10^ (ex: 2.7E5 = $2.7 \cdot 10^5$)

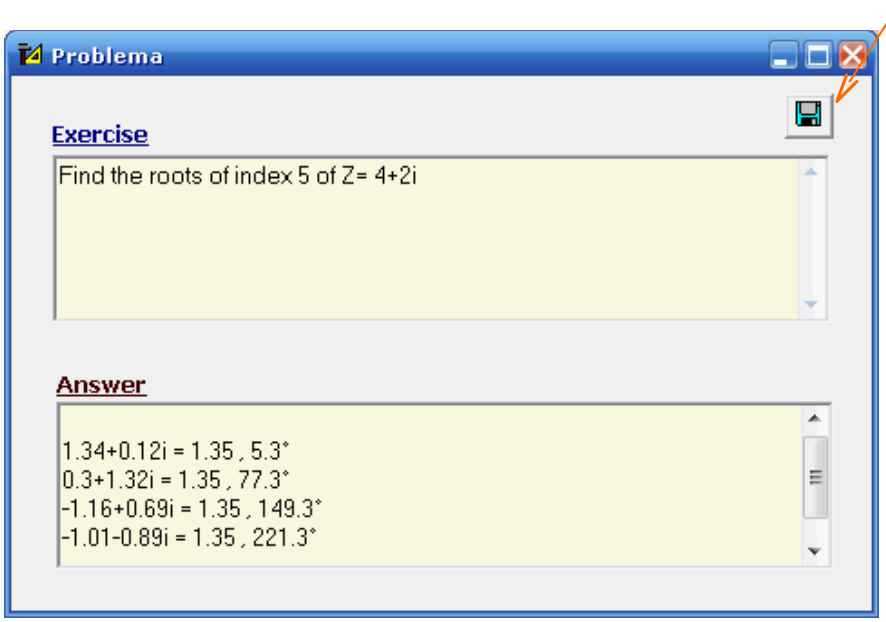
In any case results can be saved as an "exercice" clicking on

3. Saving and recovering results

In addition to use of  results can be saved also from the menu:

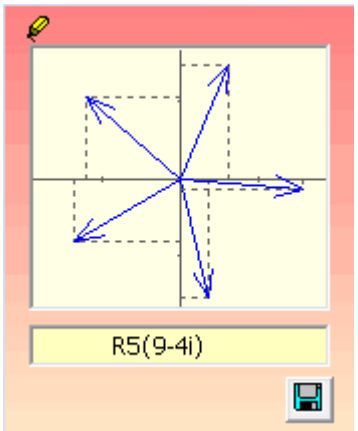


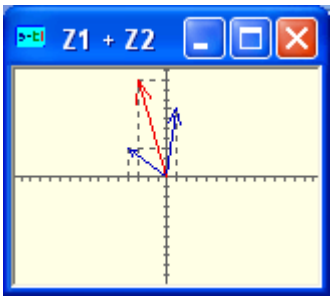
Before, a preview of the exercise is shown. And then, you can edit it and/or save it definitively



Graphics can be saved in **jpg** format by means of  or, in the binary operations, as an option when saving results.

(The user can combine results saved as text with graphs in an *.rtf, .doc , Open Office*...file)





All files saved can be recovered by means the menu option …