

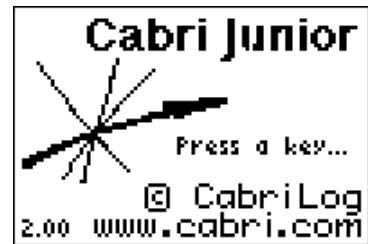
# Cabri® Junior

## CATEGORY

Tool

## DESCRIPTION

This application performs analytic, transformational and Euclidean geometric functions and builds dynamical geometric constructions. It is possible to import and export figures to and from the TI-83/84 Plus and PC using Cabri Geometry™ II Plus.



## DIDACTICAL SUGGESTIONS

Cabri Junior enables students to explore geometric concepts that are difficult to express on paper. They can construct geometric objects and dynamically explore geometric properties, measurements and transformations.

With Cabri Junior, the Cabri version for the TI-83/84 Plus it is possible to:

- draw points, lines, segments, circles, triangles, and quadrilaterals,
- construct perpendiculars, parallel lines, perpendicular and angle bisectors and loci,
- carry out transformations like translations, reflections, rotations and dilations,
- compute lengths, perimeters, areas and angle values,
- display coordinates and equations (of lines and circles).

All the commands to do this are stored in menus which can be activated through the function keys F1 to F5. It's not necessary to press the ALPHA key first. A menu remains active until another will be selected or until you press CLEAR.

To navigate in a menu use the  $\blacktriangledown$   $\blacktriangle$  keys. Once a menu is activated use the  $\blacktriangleleft$   $\blacktriangleright$  keys to navigate through the menu. Use  $\blacktriangleright$  to open a submenu of a menu. To select a command first highlight it and then press ENTER. It is also possible to press the corresponding number although they are not shown on the screen.

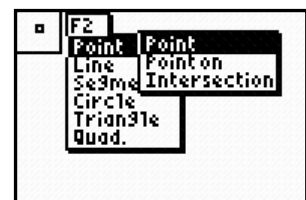
### F1: Tools

With this menu you can create, open and save Cabri Junior files. It also contains the Undo command and the Explore command to step through how a figure was made. Animate lets you set figures in motion and during an animation in Cabri Junior it is possible to change the independent objects.



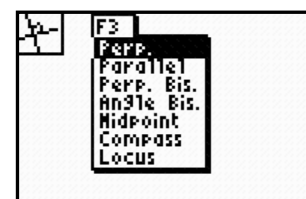
### F2: Figures

The drawing of lines, segments as well as circles is based on two points. For a circle this means a center point and a radius point. To start drawing put the cursor on the desired place and press ENTER to define the first point. Then replace the cursor to finalize the figure.



### F3: Constructions

Cabri Junior shows the objects that have to be constructed before you finally put them in the figure by pressing ENTER. The commands Midpoint and Perp. Bis. can be used for two points and for a segment. And with Compass you can create a circle with a radius equal to the distance between two points or the length of a segment.



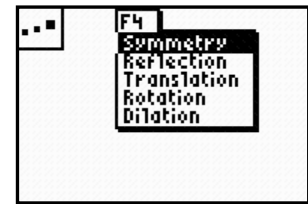
## **F4: Transformations**

Symmetry rotates an object  $180^\circ$  with respect to a point and Reflection gives the mirror image across a line or segment.

Translation uses a segment to translate. The direction is defined by the beginning and end point of the segment.

And Rotation and DILATION use a point and a number (F5).

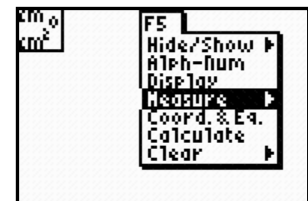
To do a transformation first select the object you want to transform.




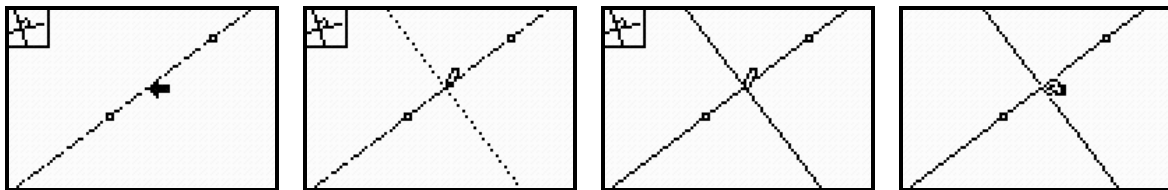
## **F5: Measure & Display**

This menu allows the user to:

- hide and show objects,
- enter comments and numbers (Alph-Num),
- change the format of objects (Display),
- measure distance, length, area, angles and slopes,
- display coordinates and equations of lines and circles,
- do calculations using the numbers on the screen,
- delete objects (Clear).

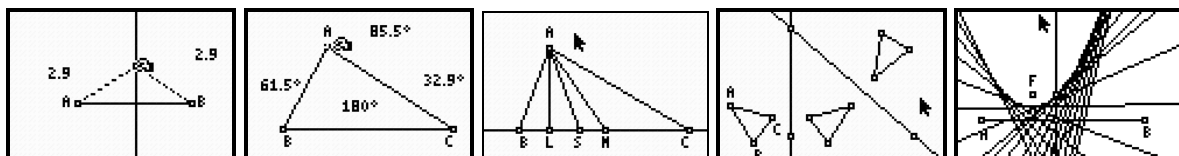


During the drawing of figures and making of constructions it is useful to look carefully at the shape of the cursor. The messages that appear in the computer version of Cabri are hidden in the lay out of the cursor. Each command has its own icon, shown in the upper left corner of the screen. Only when the pointer is active, , no icon is shown.



Some extra functionality to end with:

- |           |   |
|-----------|---|
| CLEAR     | Quit a menu or activate the pointer.<br>3 x CLEAR = clear everything on the screen  |
| DEL       | Clear objects. If DEL doesn't work, use F5 : CLEAR.   |
| 2nd       | Switch between choices in dialogue windows.<br>In version 2.0 it is also possible to use the $\leftarrow$ $\rightarrow$ keys. |
| ALPHA     | Drag and drop, the pointer has to be active.  |
| 2nd[QUIT] | Quit Cabri Junior and go to the home screen.  |



## **POINT OF VIEW**

Although Cabri Junior has less functionality than the computer version it is a nice tool to let the students discover geometric properties in a daily class situation without going to a computer lab. The teacher can prepare basic figures on his computer (Cabri Geometry II Plus) to start a student's activity on the students TI-83/84 Plus.