matheos *Ecole Open Source*

Open Source Softaware for Education

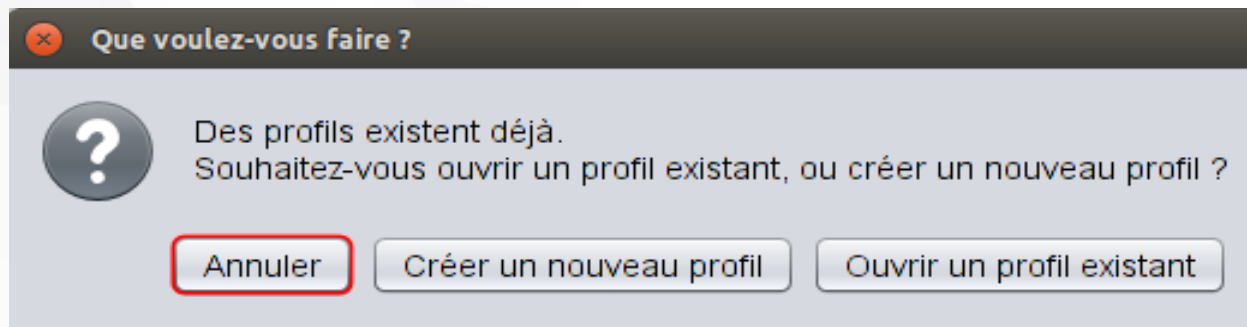## User Guide for MathEOS

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Contents

First steps

Start the MathEOS. The following message appears :

Select « **Create new profile** », then fill the following form :

**Last name/First name** : will help to identify your files

Level : Indicate here your current class. Example : **primary school** if you are below 7th year, **10th+** if you are in 10th year or above, or **teacher** if you are a teacher. The interface adapt itself given your class level. This way, only the tools that you will need are displayed.

These 3 informations always appear at the top of the main window.

Class : *(facultatif)* to help your teacher identify yourself. Specify your classroom. Enter A for 7th A for instance.

First steps

This is the main interface of MathEOS. The text editor is initially locked. To unlock it, click on the blincking button. You will be invited to create your first **Chapter**. Just give it a name.
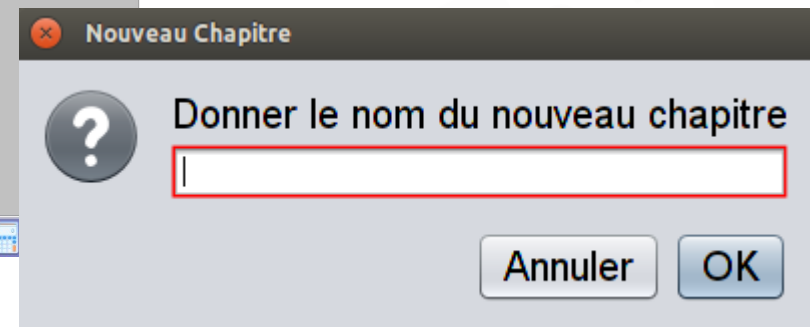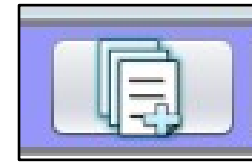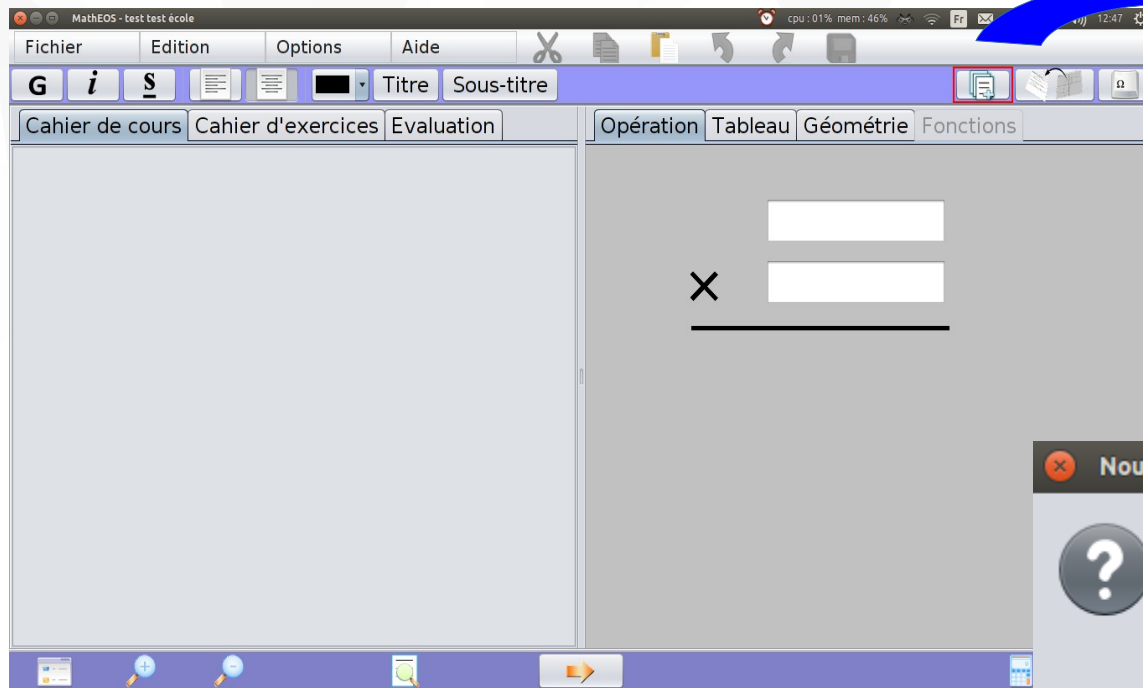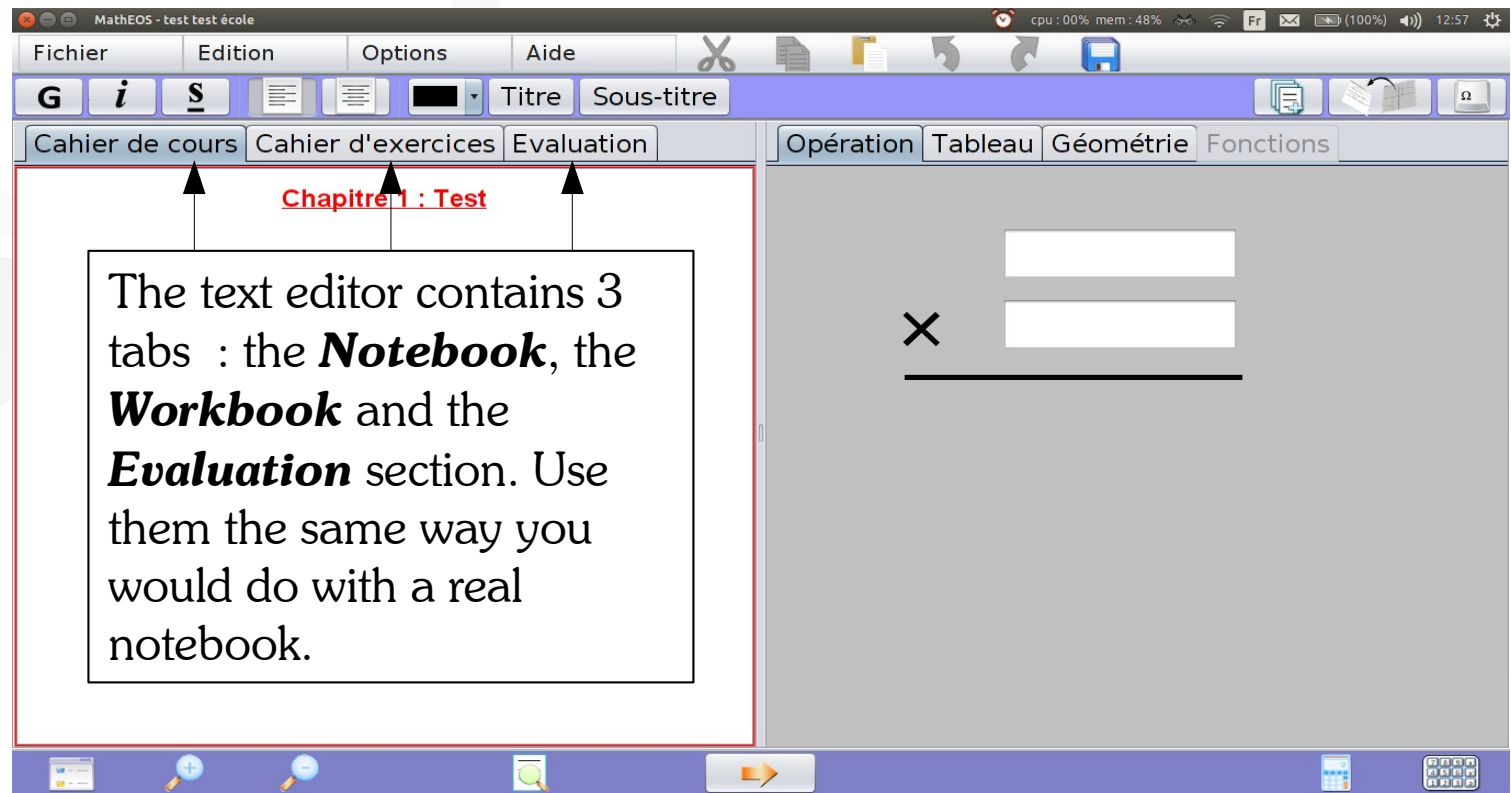
First steps

The text editor is now ready for use. You can insert text, titles, subtitles, use colours, set some words in bold, in italic, undeline them, or center the text.


The **toolbar** is the blue bar where you will find all the buttons you need to interact with the active part of MathEOS

The text editor contains 3 tabs : the **Notebook**, the **Workbook** and the **Evaluation** section. Use them the same way you would do with a real notebook.

The working section

The interface is always divided in 2 parts : the **text part** (ie. the **text editor**) on the left, and the **working section** on the right. The **active area** is surrounded with a **red border**. The *inactive area* is painted *grey* to show that it had been disabled. To reactivate an area, just click on it.
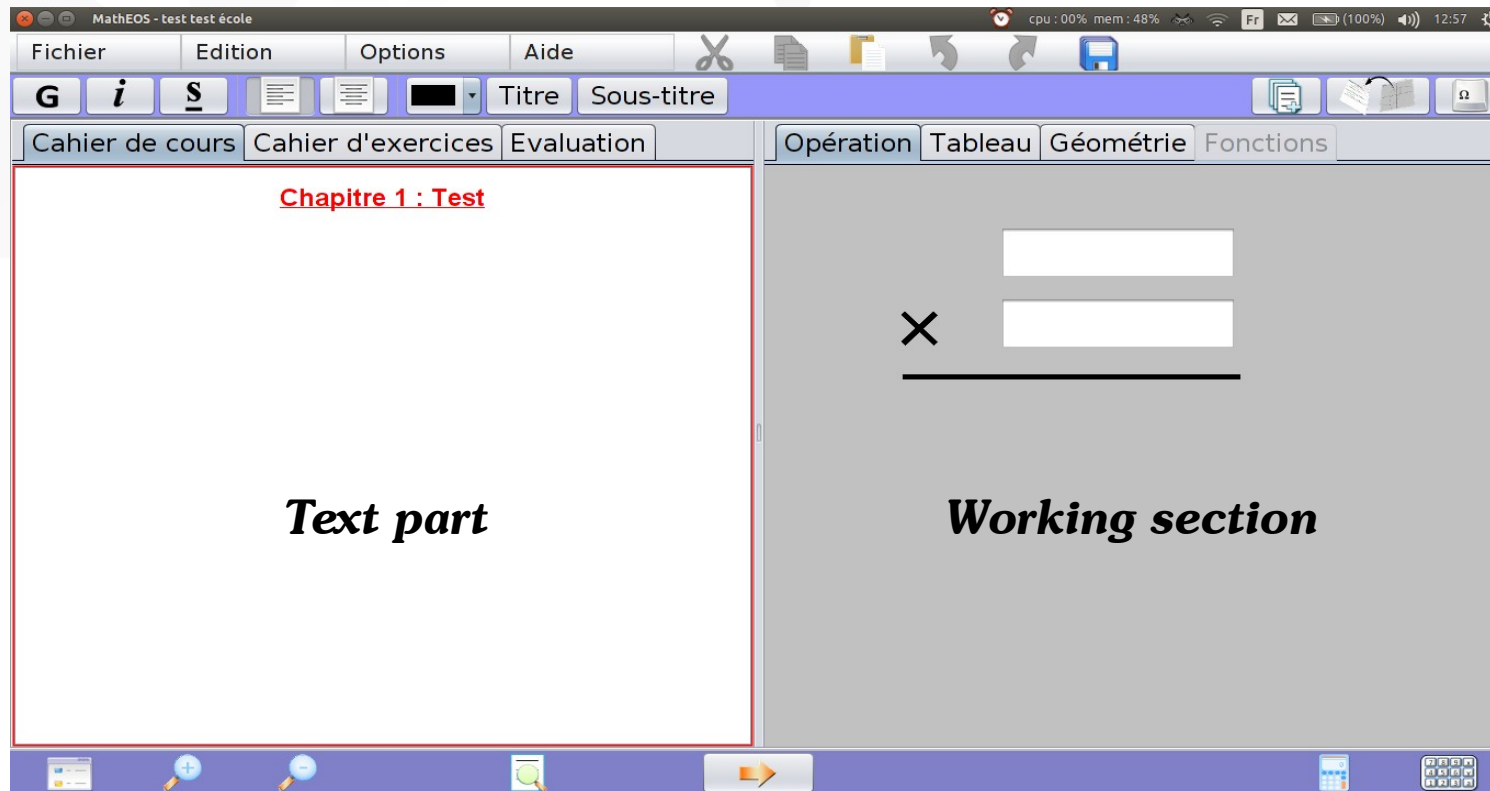

*Here, the **text** part is activated. (red border) whereas the **working section** is disabled (grey background)*

The working section

The **working section** is now activated (coloured background). The buttons of the toolbar take place on the right, above the current work. These buttons are specific for each tab.

If you need to edit a parameter, take a look in the **Options** menu. It is highly probable that you will find it there.
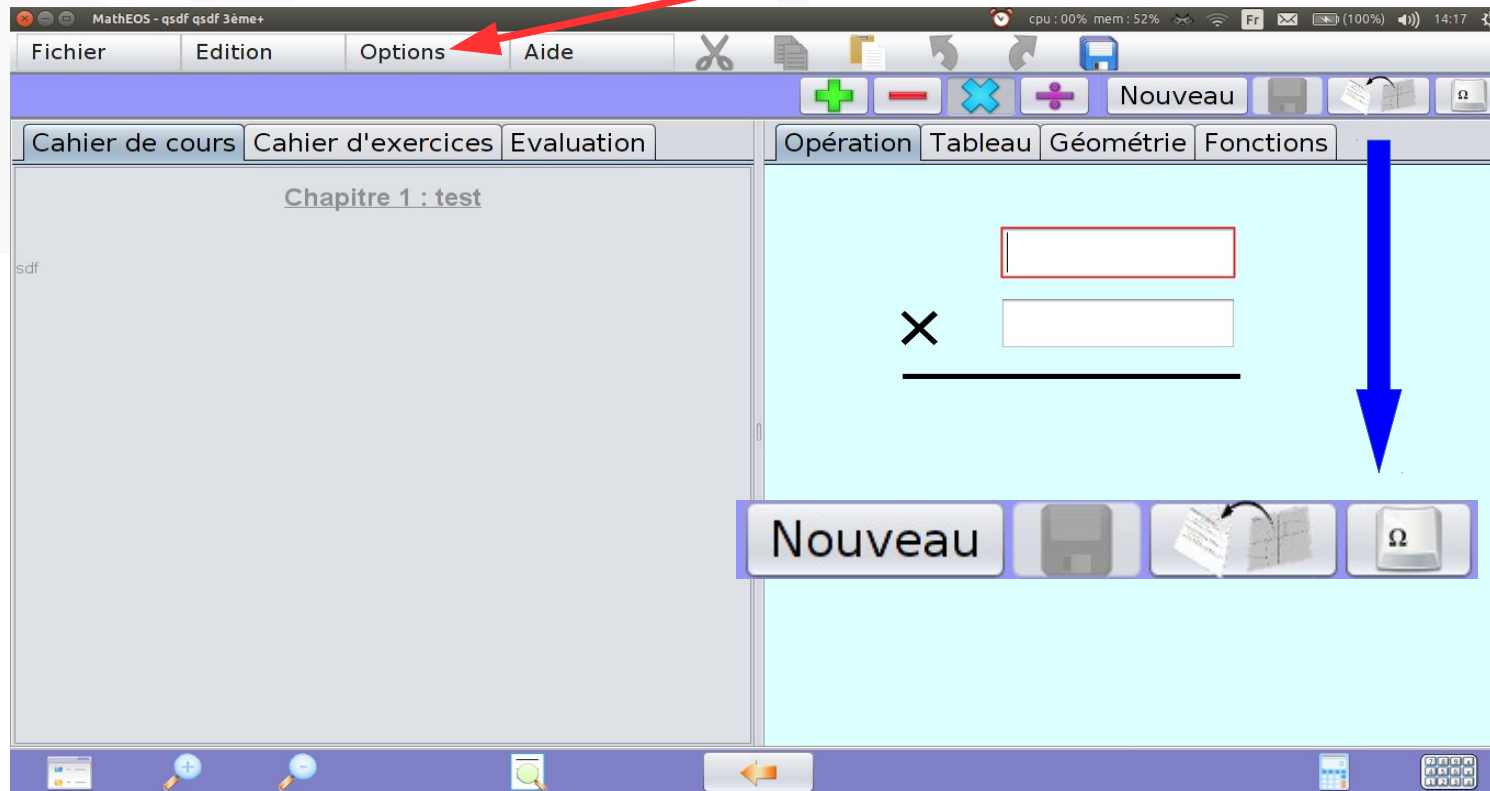
Each tab gets their own toolbar, but 3 buttons always remain:

- **New**,

- **Update**,

- **Insert,**

- **Omega**.

We will describe them further.

The working area

Each tab means to be the most intuitive possible. Realize your exercises thanks to the toolbar, then insert it in the text editor by pressing the « *insert* » button.
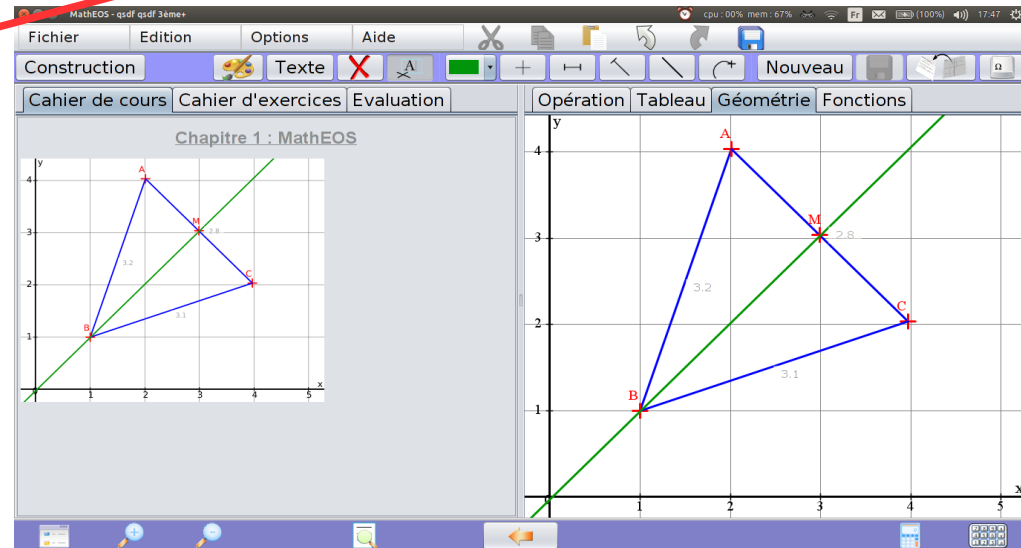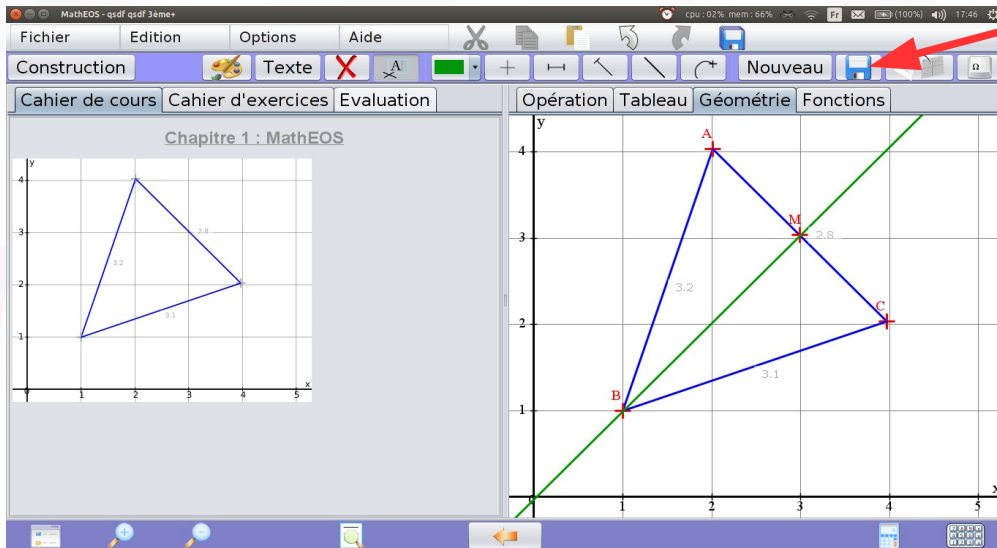
Here, we did the Euclidian division of 3.6 by 10. You can manage decimal point very easily.

The working area

After you inserted your work, you can edit it and insert it again, or just update the previous one by pressing the « ***update*** » button.
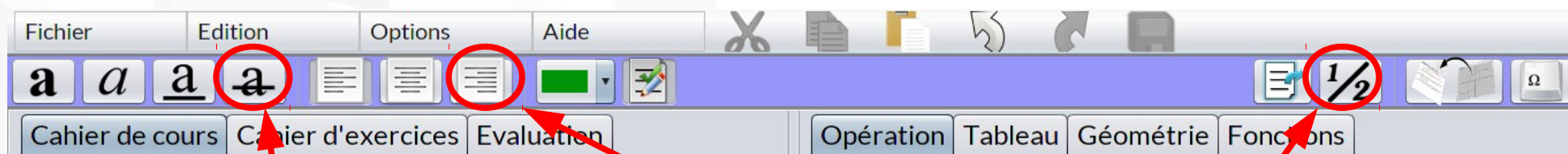

The update button will update your work in the text editor. You can complete or correct an exercise with this method.

By double-clicking a previous work in the text editor, it will automatically open in the ***working area***. From there, you can edit it, update it or insert it again in another location of the ***text editor***.

Correction tools

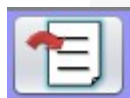Use this button to enable the « ***Correction mode*** ». Three new buttons will appear

| Fichier | Edition | Options | Aide |

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| Cahier de cours | Cahier d'exercices | Evaluation | | Opération | Tableau | Géométrie | Fonctions |

Strike a word or an image   **Right** alignment   Insert a **score** or a **scale**

$\frac{15}{20}$ $\frac{}{1}$

In the **notebook**,

Import a lesson prepared by your teacher.

It would be a .mef file that the teacher would have written in their own notebook.

During an **evaluation**,

Import the correction of your work.

It would be the .mef file that the teacher would have corrected and sent back to you.

Check the correct version linked with the copy.

Export your work to send it to your teacher.

The export will give you a .mef file that can be corrected by the teacher.

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L'Ecole Open Source par François Billioud

Correction tools for teachers

With the « *teacher* » profile, the following buttons are available in the *evaluation* tab :

Put all the *.mef* files you want to correct in a single folder, the press this button and select that *folder*.

A new icon appears :

Use that list to *open* one of the pupils files and start the correction

Export the assignment to give it to the students

Use this tool to write down all the *comments* relative to the current evaluation

This button is used to *save* the corrections you made, and *open* the copy of the *next pupil*.

Create or edit the *correct version* of the test. The correct version is initialized with the content of the assignement.

Some new tools appear :

Export the correct version alone

Delete the correct version

Go back to the assignment edition.

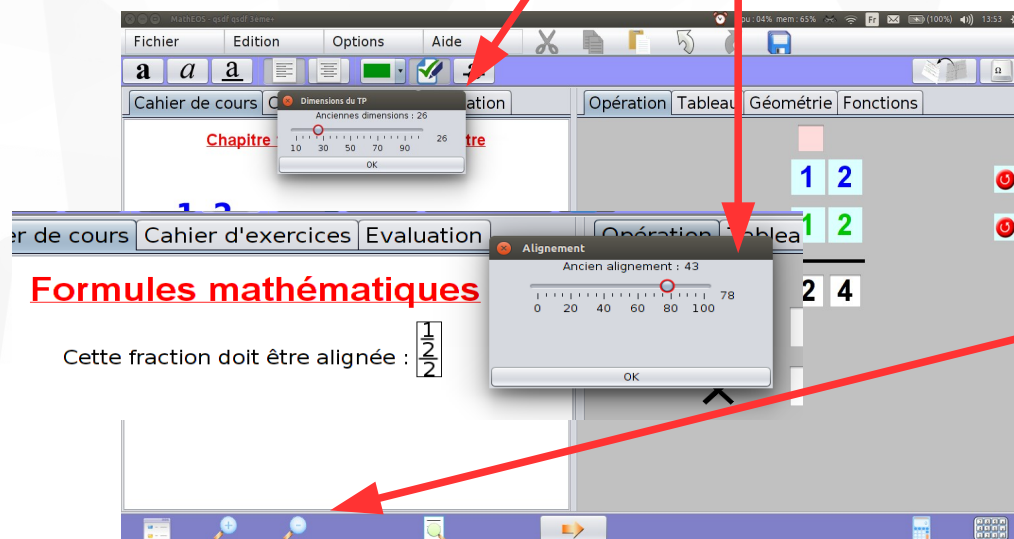You can easily switch between the assignment and the correct version with this button.

To go further ! The text editor

Right-click on a ***title*** to ***rename***

Right-click on a ***image*** to ***resize***
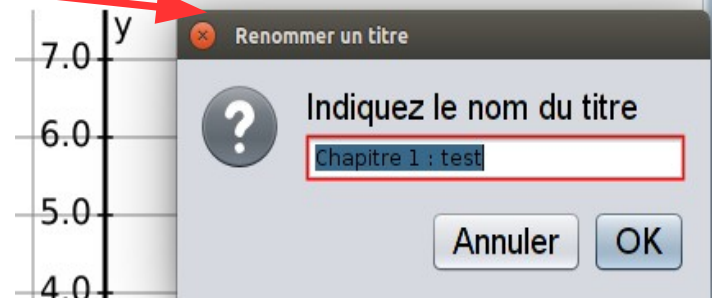
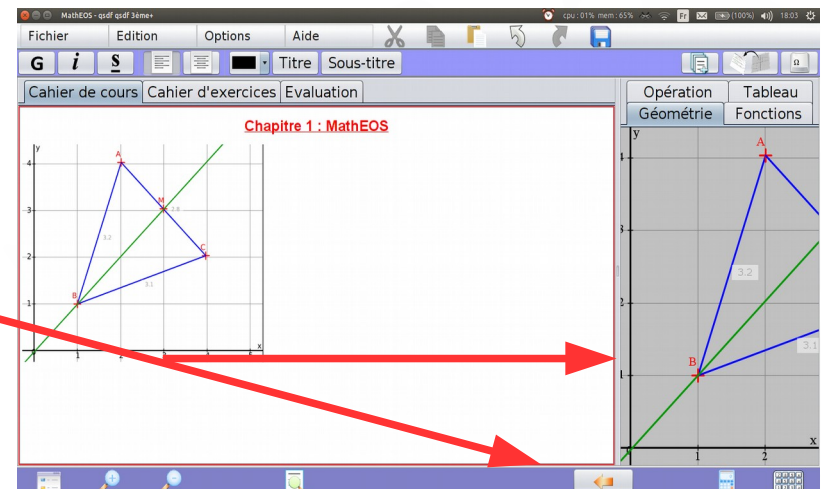***Right-click*** on a ***formula*** to ***align***

Use the mouse wheel or the « ***Zoom+*** » and « ***Zoom-*** » buttons at the bottom to increase the size of the editor content.

The « ***arrow*** » button will increase the size of the screen dedicated to the active part. You can do the same thing by manually draging the split line between the ***Texte*** part and the ***working area***.
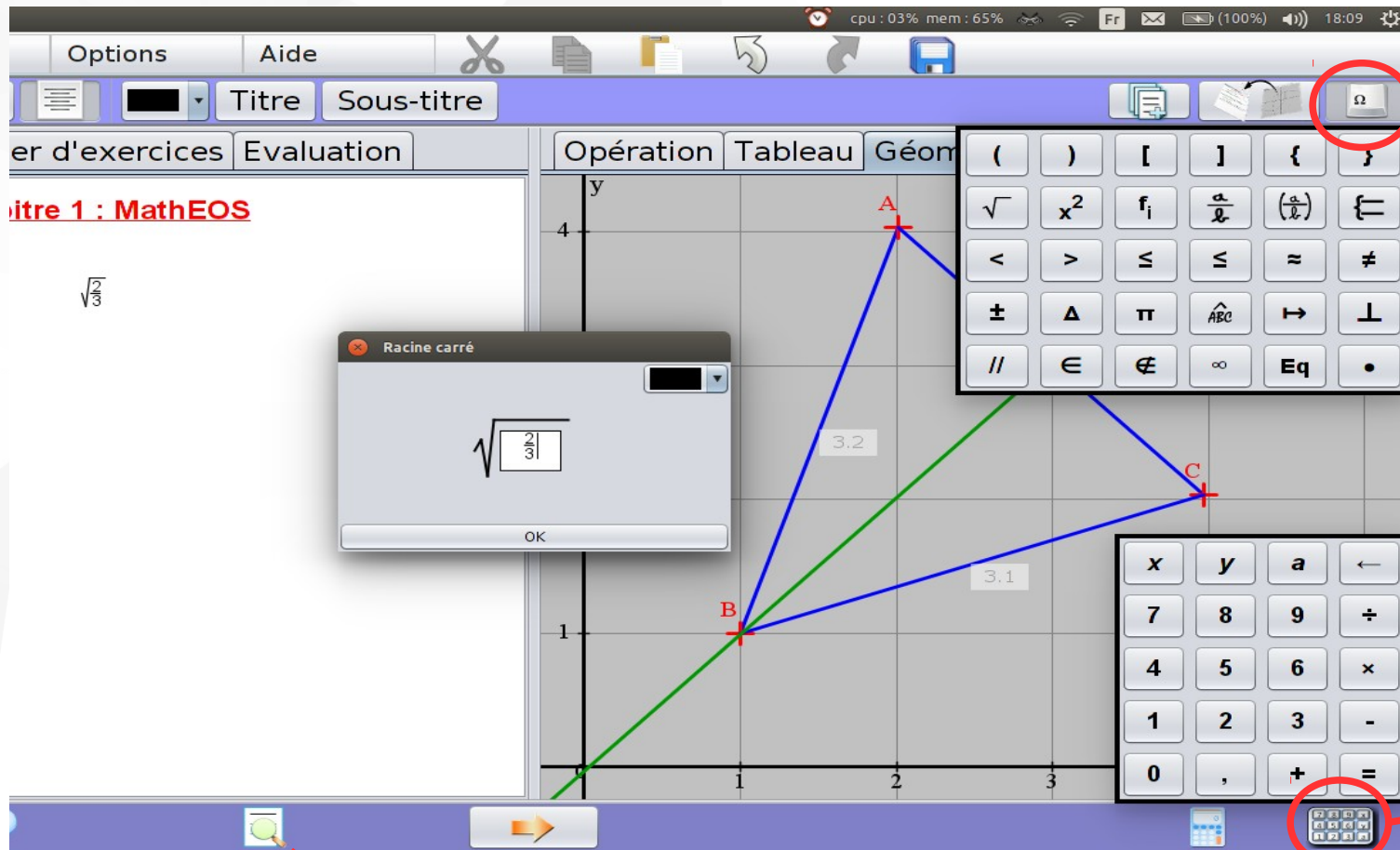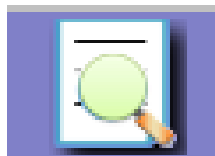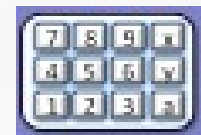
To go further ! The text editor

The « **Numeric keypad** » and « **Oméga** » give you access to virtual keyboards that will help you easily insert some **specific characters** and **mathematical formulae**.
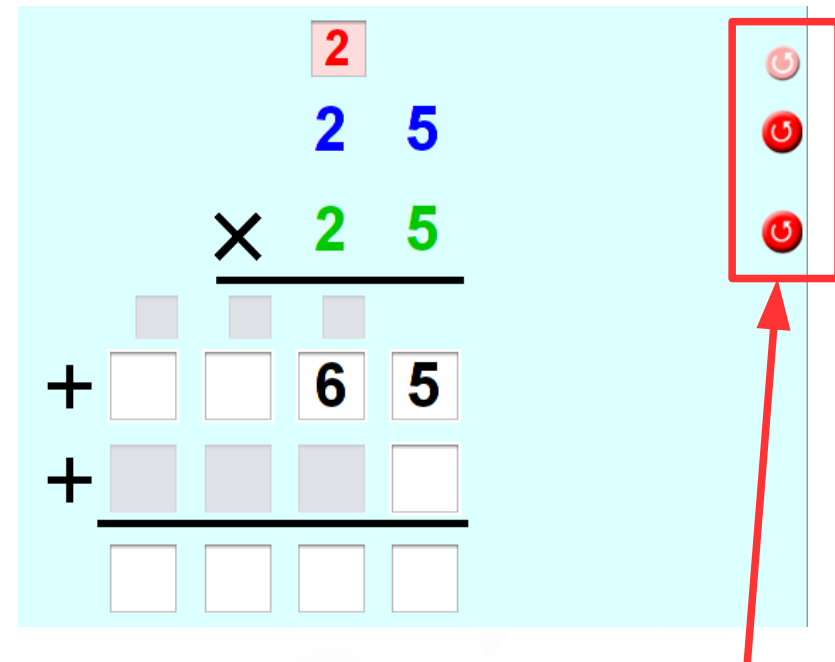
If you are doing an exercise that requires some knowledge from previous lessons, you can display it in a separated window using the « **consulting** » button
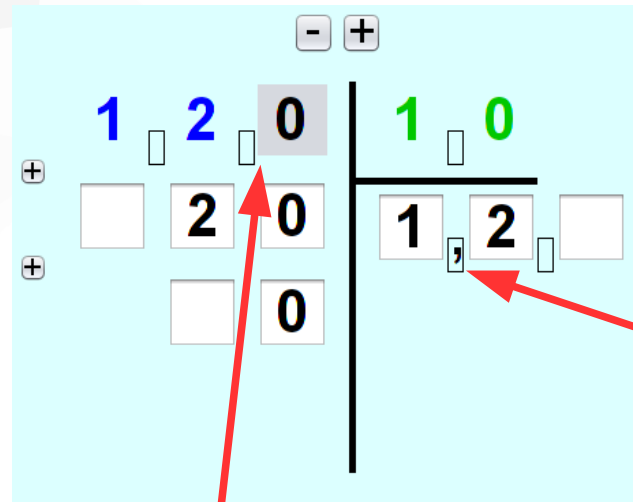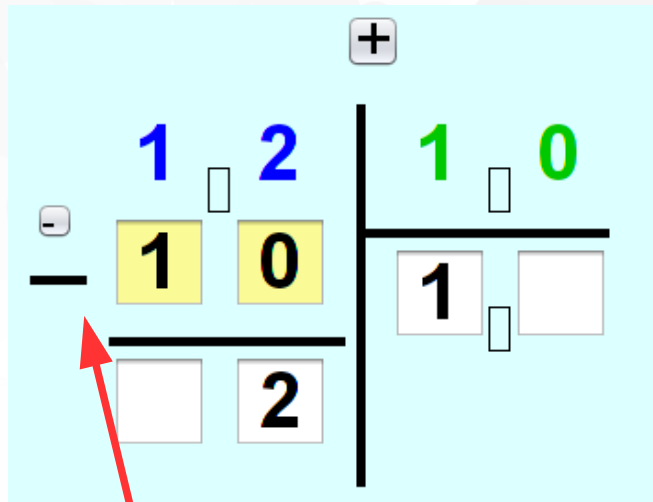
# *To go further ! Mathematical operations*

Click on a digit to edit its value.

The « ***reset*** » buttons will reset the content of the corresponding raw. They will clear the carries or correct the entry.

To go further ! Mathematical operations

Click on a ***decimal point box*** to display or remove the decimal point at that location.

The **+** and **–** buttons will add/remove a ***decimal zero***, or display an ***intermediate substraction*** in the Euclidian division. In the addition tab, they will ***add/remove a number***.
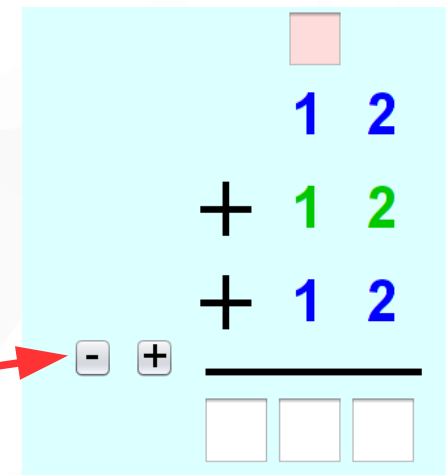
To go further ! Proportionality tables

It is possible to create multiline content in a cell. To do so, keep the « **Shift** » key pressed and press « **Enter** »
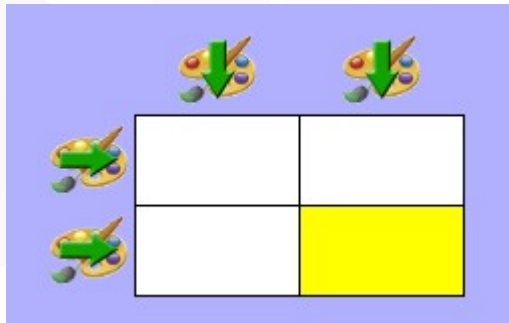

If you **right-click** on the first cell of the table, you can transform it into a **double entry cell**.

You can move the selected cell with the arrows. Keep the « **Shift** » key pressed to select multiple cells. A **drag** would give you the same result.
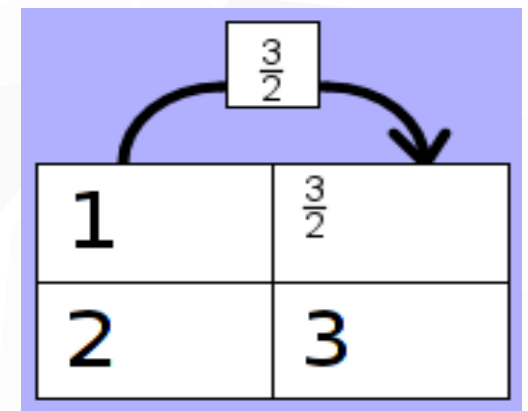
To go further ! Proportionality tables

Press « ***Escape***   » or click outside the bounds of the table at any moment to go back to normal mode.

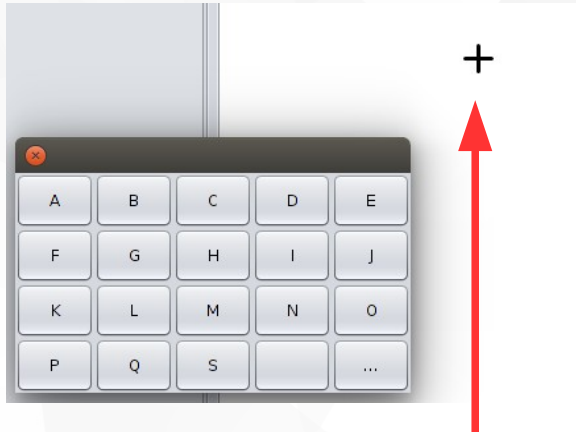The « ***paint***   » tool enables you to paint rows, columns, but also cells by simple click.

You can use the fractions from the « ***special character***   » keyboard to write rational proportionality coefficients. The keyboard is available by clicking the « ***Oméga***   » button.
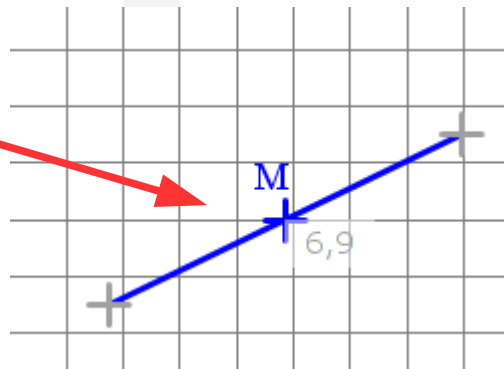
To go further ! Geometry

With the « **Segment** » tool, click on any existing segment to **copy** it. Click again on that same segment to create a **rectangle**. Click one more time to create a **square**.
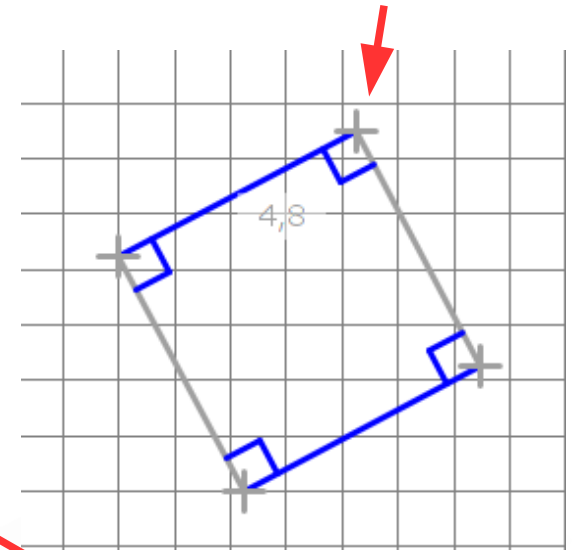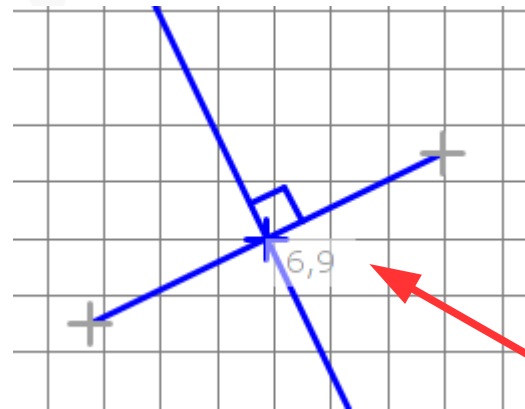
Renaming a point can be done with the « **Rename** » tool, but also by **right-click** on the point, or by clicking with the « **Point** » tool on an existing point. To select the final name, you can use the **virtual keyboard** or your **own keyboard** as well !

Create the middle point of a segment by **right-clicking** the segment, then select **Midpoint**.

To trace the **parallel** or the **perpendicular** line to another line, select the desired tool (segment, half-lin, line), then **right-click** on the original line. You can now select« **Create perpendicular** » or « **Create parallel** » from the context menu.
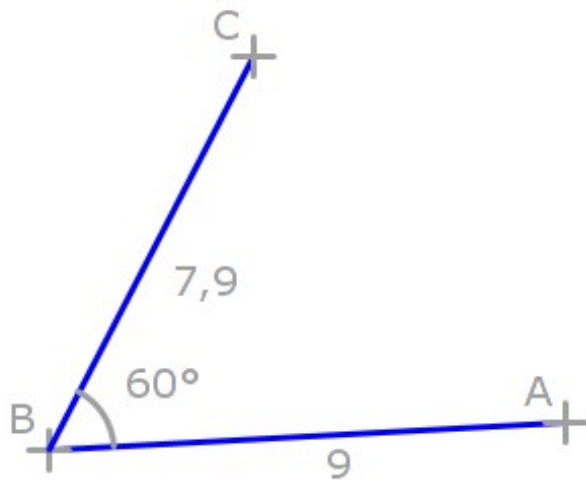
To go further ! Geometry

Choose the right tool !

If you plan to draw an orthogonal **segment**, select the **Segment** tool. If you want to draw only an orthogonal **half-line**, select the **Half-Line** tool. That's it !
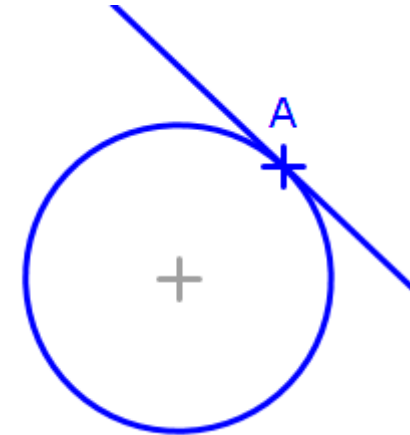
The **Line** tool can be used to draw a **tangential line**. Select the targeted arc, and then a point where the tangential line is supposed to pass by.
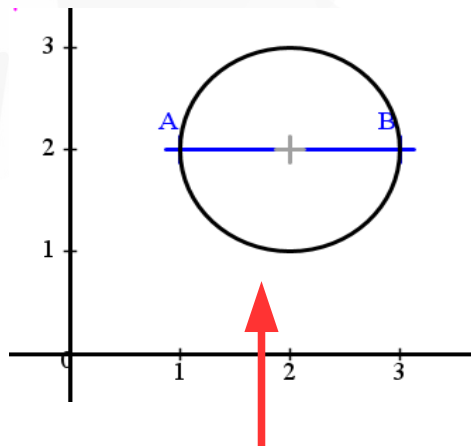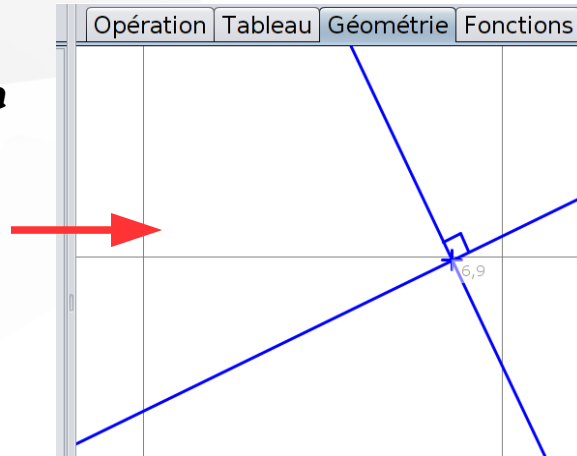
To create an **angle** between to lines, half-lines or segments, select the corresponding tool, then click on the intersection point, click on the initial axe, and finally, just open the angle to the expected value.

Example : To **create the ABC angle** of 60°, create the AB segment, then, still with the segment tool activated, **click on B**, **then on [AB]**, **then create C** by opening to 60°.
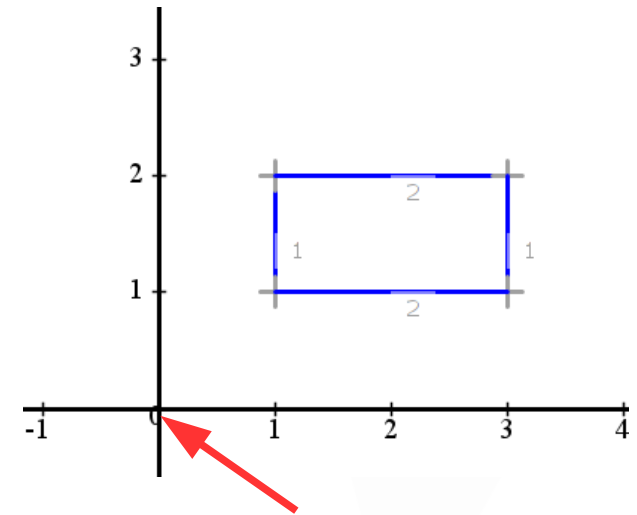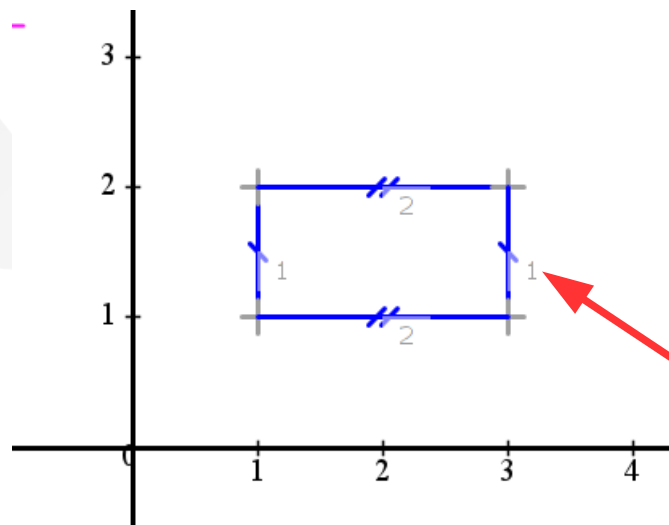
To go further ! Geometry

You can indefinitely ***zoom in/zoom out*** with the ***mouse wheel*** or with the ***zoom*** buttons at the bottom of the screen.
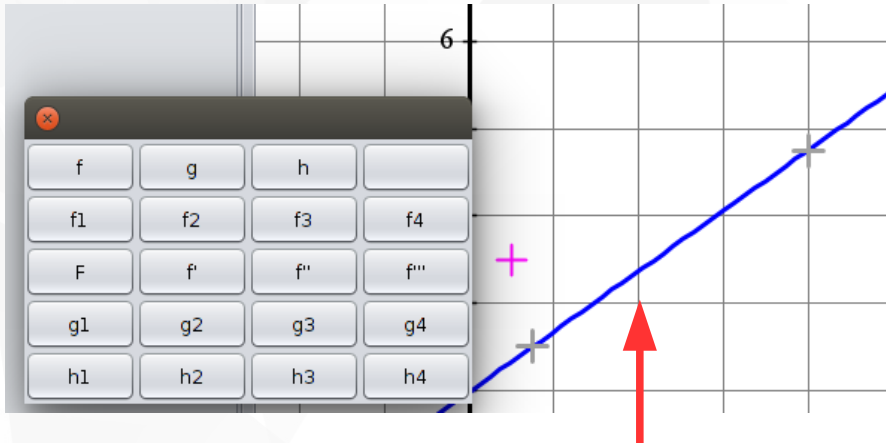
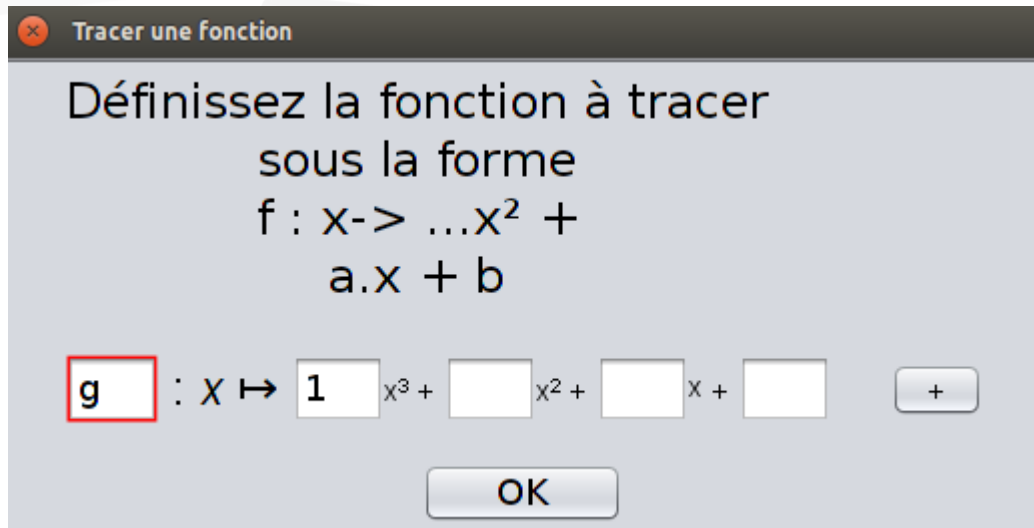| Opération | Tableau | Géométrie | Fonctions |

Just ***drag*** to move the drawing

You can ***add/remove*** the grid, the axes, the graduations, edit the magnetism, the scale, etc, from the « ***Options*** » menu at the top of the screen.

Quickly draw a ***circle*** by its diameter by clicking on a ***segment*** with the « ***Arc*** » tool activated.

Put some marks on ***identical segments*** or ***angles*** with the « ***Coding*** » tool, accessible from ***right-click → Mark similar elements***
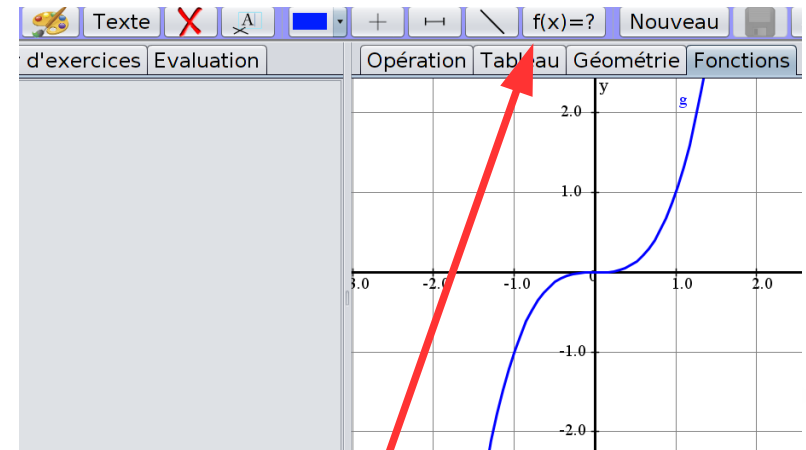
To go further ! Functions

The tab is globally working the same way as the **geometry** tab. Refer to the **Geometry** part of this manual for more details.

The « **Rename** » tool enables you to rename a **point** or a **function** with a simple click.

You can trace a function by its equation thanks to the « **Trace** » tool.

Coming soon…

These are the parts we are currently working on

- *Update the Operation tab to enable more digits, use the different methods for substraction, display more intermediate substractions in Euclidian divisions, navigate more easily between the digits…*

- *Extend the software for highschool*

- *Tablet and mobile apps*

Thank you !

Thank you for using MathEOS.

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