

The Multilingual Mathematics Knowledge Base which can be reached through <http://mbuttons.bolyai.hu> was created through the common application to the competition MINERVA of several European countries. The Hungarian party, complying with the purposes of the János Bolyai Mathematical Society, is the participant of a programme whose target consist of students, teachers and researchers of mathematics. The internet dictionary of mathematics runs its test version only, but it is still worth trying it.

Unlike other usual encyclopaedias, in this so-called thesaurus or knowledge base, the explanation of words and phrases used in mathematics appear together with figures, examples, and links to other concepts and their environment. In the final version searching by topics will also be possible. At the moment, searching on a main entry of a topic, it is possible to study the topic to its full extent due to the graphic display.

A particular feature of the mathematical thesaurus is that it has eight languages, and can be enhanced by further languages any time. Originally, a part of the contents created within the frame of the Mathematics Millennium Project of Cambridge University was translated into Hungarian, Polish, Lithuanian, Finnish, Danish, Spanish and Slovakian: roughly the material taught in primary and secondary schools. However, all countries adjusted the topics of mathematics in their own language to their taste: some items have been added to, others have been omitted from the English version. Although the propositions in mathematics are the same everywhere, their teaching, the method of introducing concepts are different in each country. Each European country had the chance to improve those parts of the dictionary which were thought to be the best following their own ambitions. A previously chosen basic set of words has been translated into each language, and several phrases can only be found in English.

How to use the internet dictionary and encyclopaedia?

From the opening page of the Multilingual Mathematics Knowledge Base, in the Settings menu item one can select the languages of the dictionary. By default, for a Hungarian user Hungarian–English is set, but it is also possible to choose more languages and a different order. (The operating language can be changed in the upper menu line.) It is advisable to install the M-buttons link under the Links menu item of the browser following the Help instructions. In case of Internet Explorer, if the Links item is not highlighted in the Title line of the menu bar then View – Tools – Links creates the spot where the M-buttons can be „dragged”. The M-buttons directly connects the visited mathematical web pages to the Multilingual Mathematics Knowledge Base: if on a web page there is a phrase identical to one in the dictionary then its explanation or environment can be found by a simple click. We will give an example on the operation of the M-buttons later on.

Beforehand, the Help suggests to install two softwares helping graphic imaging and mathematical symbols (without these the program can not be used properly): Mathplayer and Java.

Only after this it is advised to start browsing in the dictionary: either we type a mathematical phrase in the search window, or we launch the Alphabetical order menu item, in which clicking on a letter, words beginning with it can be displayed.

Who is it made for, and what is it capable of?

The Multilingual Mathematics Knowledge Base is not yet complete. However, its frame makes it possible for the editors to make changes through the internet at any time. Should anyone find a mistake, if it is sent to us in an e-mail (olahvera@komal.hu), we will correct it.

Each concept is defined differently at beginners', intermediate and advanced levels. For the beginners they are only described and they are defined properly for the more advanced users. More and more theorems, notes, figures and examples can be added to the entries.

By whom and for what can it be used?

- students, who for some reason do not understand material learnt at school, or missed classes, can find and understand the missing information;
- Hungarian students studying abroad, or foreign students studying in Hungary, who are not familiar with technical terms;
- teachers can use it when preparing for their lessons in bilingual education, or just for an overview on a particular topic (teachers can also check how a topic is introduced and taught in other countries);
- it can be used as an example in teaching informatics;
- anyone (adults, parents) can use it for personal study;
- for those interested in and those who apply mathematics it can be a useful tool after translating the advanced-level mathematical expressions;
- it can be used by those who translate mathematical texts from any language to another, and it can also be a helpful supplement to language instruction.

Those who managed to get an insight into the thesaurus are asked to experiment: download the homepage of KōMaL, <http://komal.hu>, and find a mathematical article or a problem. Then click on the M-buttons in the Links menu item of the browser (Internet Explorer, Netscape): after a while some words on the KōMaL page will be highlighted: these words can be looked up in the Multilingual Mathematics Knowledge Base by a single click, and by clicking again, you are back to the original text.

I wish a pleasant browsing among the mathematical opportunities of the internet and I await any remarks, questions, corrections and additions, sent to my e-mail address olahvera@komal.hu.