

Vysoké učení technické v Brně  
**FEEC BUT Brno**  
 Department of mathematics

# *MAPLE IN COURSES FOR HIGH SCHOOL TEACHERS*

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## Abstract

The paper was inspired by our experiences with the European Union Operational Program Education for Competitiveness, named: "Mathematics: How to motivate secondary school students to study at technical universities", that is organized by our department. The program is prepared for secondary school mathematics teachers in our region. Within the program the secondary school teachers attend courses in mathematical software Maple, MATLAB and Mathematica as well. In this paper we would like to present our experiences with teaching Maple and the reactions of the participants to that software. We also present some Maplets - small applications which can be used via MapleNet on every computer without the need to install Maple.

### Program of the courses

- Mathematics in the first semester
- Mathematics in higher semesters
- Entrance examinations and requirements
- Maple, MATLAB, Mathematica software courses
- Visit of lectures and practical classes

### Program of the "Maple day"

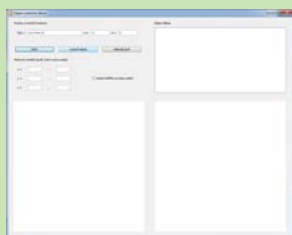
- Introduction to the software Maple
- Practicing Maple
- Solving a mathematical problem in Maple
- Presentation of Maplets

### Maplets

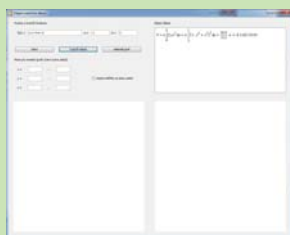
- graphical user interface for Maple
- interactive windows and dialogs
- MapleNet makes the Maplets accessible from the internet

## Examples of Maplets

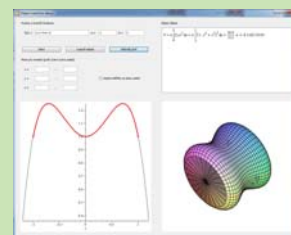
### Volume of revolution



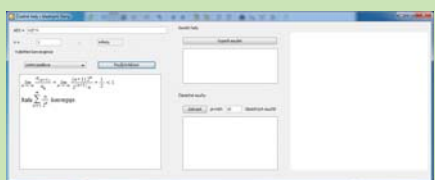
### Volume of revolution



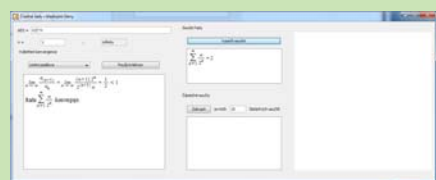
### Volume of revolution



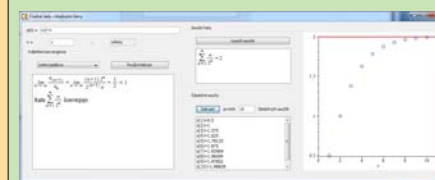
### Number series



### Number series



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## Conclusion

One of the most important results of the project is that we exchange experiences and start some cooperation between secondary schools and our department. The attendants of the course appreciate the introduction to software products, especially to Maple. The use of computers may help many students understand mathematical concepts and real meaning of many formulas. Moreover, for the current generation of students the employment of computers is quite natural, and they more or less expect that mathematics should be done on computers.

We also hope, that regarding to this meetings, we can gain a greater number of good students to study at technical universities, especially at the Faculty of Electrical Engineering and Communication BUT.