

# How to use this book

**T**his book contains valuable information about the course you are taking (and possibly about the next course you will take), and about Maple and how to find it and how to use it. The book also contains many calculus problems which you will be assigned -- some are to be done using Maple, and others are to be worked out by hand. Many of the latter are problems from past final examinations in this course -- they will give you an idea of the level of difficulty you can expect on your exams.

Specifically, in this book you will find:

- 1. General information about how calculus courses are organized at Penn, and ways you can get assistance with math** -- these range from using your instructors' office hours to taking advantage of help sessions in the residence halls.
- 2. Information about where to find Maple in computer labs on campus, and about electronic means of getting help with calculus and Maple**
- 3. The syllabus for your course, including a list of "core problems" from the textbook.** These problems form the basis of your study of calculus this semester. Your instructor will assign them in addition to other problems from the text, problems from this book, and problems from other sources.
- 4. An annotated list of Maple demonstrations for your course.** Some of these demonstrations will be used in class. You may download any of the demonstrations for examples of Maple used to solve Calculus problems, and occasionally as templates for solving problems.

**5. Instructions for your first Maple session -- In the Fall Semester, EVERYONE is REQUIRED to attend an introductory Maple session during the first week of class -- YOU MUST BRING THIS BOOK WITH YOU so you have the instructions for this session.** There will be a sign-up sheet for this session outside room DRL A1.

**6. A sample Maple assignment, together with solutions to the assignment --** this is meant to show you how to write up your solutions to Maple problems. The most important thing to notice is that there is **LOTS OF TEXT** in the complete solution to a Maple problem -- it is not sufficient just to get the right answer. You must explain how you arrived at it, and often you will be required to interpret its meaning in some mathematical or applications-oriented context.

**7. A fairly extensive "Maple manual" --** which explains some general principles for using Maple, Maple syntax and a little bit about Maple programming. The rest of the manual part is organized around Maple commands. We have made an attempt to explain what many of Maple's sometimes-mysterious error messages mean, and what to do when you encounter them.

**8. A set of solved problems from the textbook ---** These problems are chosen from among your course's "core problems"; they provide an idea of how to solve Calculus problems in Maple.

**9. A set of Maple problems for your course ---** Much (but probably not all) of the homework you will be required to do on the computer will come from this section of this book.

10. **A set of old final exams for your course ---** Some of these problems will probably be assigned by your instructor, in addition to problems from the text.

It is advisable to read through the introductory Maple sections of this book before you have your first Maple session. Before you attempt your first Maple assignment, it would be a good idea to peruse the sections of the manual on "Basic stuff", "syntax", "solve", and "plot". Before each assignment, you should look through the section on whatever special commands will be used in that assignment.

**PLEASE GIVE US FEEDBACK ABOUT THIS BOOK!** We have tried to anticipate many of the questions and problems you will have, but we are sure that we've missed some. If you encounter a problem that is not covered anywhere in this book, or have other suggestions for improving it, please let us know in the Math Department so that we can improve the book for next year's students.