Calculus With Maple

With the integration of Maple, this text reduces the emphasis on computation and focuses instead on the concepts and processes of mathematics. This approach also encourages students to generalize about the theory and application of calculus, and permits the exploration of more interesting and complex problems. This complimentary text can stand alone as a main text in a short two term calculus course. It can also use a lab-oriented approach employing the computational and pedagogical features of Maple.
Contains 20 projects, sample syllabi, troubleshooting tips, and programming with Maple. Each chapter ends with a summary and a set of exercises.
CalcLabs with Maple V
Vector Calculus with Maple
Differential Calculus with Maple
A First Course
Linear Algebra, Vector Calculus and Differential Equations
Modern software tools like Maple have the potential to alter radically the way mathematics is taught, learned, and done. Bringing such tools into the classroom during lectures, assignments, and examinations means that new ways oflooking at mathematics can becomepermanent fixtures ofthe curriculum. It is universal access that will make a software-based approach to mathematics become the norm. In 1988, with NSF funding under an III grant, I had the opportunity to bring Maple into the calculus classroom at Rose-Hulman Institute of Technology. Since then a new curriculum based on the availability ofcomputer algebra systems has evolved at RHIT and in my own courses. This volume contains a record of some of the insights gained into pedagogy using Maple in calculus. The activities and ideas captured in these Maple worksheets reflect concepts in calculus imple mented in Maple. There is an overt message to the reader that carries with it a side effect. However, it is possible that for one reader the side effect is the message and the message is the side effect! I had intended to put before my audience examples extracted from my Maple based curriculum to entice a wider acceptance ofthe benefits of making a computer algebra system become the basis of a revised calculus syllabus. By examples I had hoped to demonstrate the "rightness" of using software tools for teaching and learning calculus.
Help your students become effective users of technology for calculus problem-solving. These text-specific exploratory student workbooks present activities and instructions for the most popular graphing technologies.
Calculus & Maple 9.5 Pkg
Calculus Projects for Maple
Calculus Single Variable and Calculus the Maple Way
Tutorials for Calculus, Linear Algebra, and Differential Equations
Premiere
This substantially illustrated manual describes how to use Maple as an investigative tool to explore calculus concepts numerically, graphically, symbolically and verbally. Every chapter begins with Maple commands employed in the chapter, an introduction to the mathematical concepts being covered, worked examples in Maple worksheet format, followed by thought-provoking exercises and extensive discovery projects to encourage readers to investigate ideas on their own.
Problem Solving is essential to solve real-world problems. Advanced Problem Solving with Maple: A First Course applies the mathematical modeling process by formulating, building, solving, analyzing, and criticizing mathematical models. It is intended for a course introducing students to mathematical topics they will revisit within their further studies. The authors present mathematical modeling and problem-solving topics using Maple as the computer algebra system for mathematical explorations, as well as obtaining plots that help readers perform analyses. The book presents cogent applications that demonstrate an effective use of Maple, provide discussions of the results obtained using Maple, and stimulate thought and analysis of additional applications. Highlights: The book ' s real-world case studies prepare the student for modeling applications Bridges the study of topics and applications to various fields of mathematics, science, and engineering Features a flexible format and tiered approach offers courses for students at various levels The book can be used for students with only algebra or calculus behind them About the authors: Dr. William P. Fox is an emeritus professor in the Department of Defense Analysis at the Naval Postgraduate School. Currently, he is an adjunct professor, Department of Mathematics, the College of William and Mary. He received his Ph.D. at Clemson University and has many publications and scholarly activities including twenty books and over one hundred and fifty journal articles. William C. Bauldry, Prof. Emeritus and Adjunct Research Prof. of Mathematics at Appalachian State University, received his PhD in Approximation Theory from Ohio State. He has published many papers on pedagogy and technology, often using Maple, and has been the PI of several NSF-funded projects incorporating technology and modeling into math courses. He currently serves as Associate Director of COMAP ' s Math Contest in Modeling (MCM).
Calculus and Discovering Calculus with Maple Set
Maple via Calculus
Discovering Calculus with Maple
Maple Lab Manual
Maple Supplement
Ideally suited for use with either Strauss/Bradley/Smith or Varberg/Purcell/Rigdon, this manual may also be used in conjunction with other calculus texts. Many of the exercise sets have additional problems labeled "projects" which are somewhat more involved. These projects are designed to enhance problem-solving skills by making use of not only topics currently under discussion, but, occasionally, a wide variety of previously discussed topics as well.
Maple is a very powerful computer algebra system used by students, educators, mathematicians, statisticians, scientists, and engineers for doing numerical and symbolic computations. Greatly expanded and updated from the author's MAPLE V Primer, The MAPLE Book offers extensive coverage of the latest version of this outstanding software package, MAPLE 7.0 The MAPLE Book serves both as an introduction to Maple and as a reference. Organized according to level and subject area of mathematics, it first covers the basics of high school algebra and graphing, continues with calculus and differential equations then moves on to more advanced topics, such as linear algebra, vector calculus, complex analysis, special functions, group theory, number theory and combinatorics. The MAPLE Book includes a tutorial for learning the Maple programming language. Once readers have learned how to program, they will appreciate the real power of Maple. The convenient format and straightforward style of The MAPLE Book let users proceed at their own pace, practice with the examples, experiment with graphics, and learn new functions as they need them. All of the Maple commands used in the book are available on the Internet, as are links to various other files referred to in the book. Whatever your level of expertise, you'll want to keep The MAPLE Book next to your computer.
VISUALIZING CALCULUS BY WAY OF MAPLE: AN EMPHASIS ON PROBLEM SOLVING
Exploring Calculus with Maple Calculus
Calculus the Maple Way
Multivariable Calculus with Maple V, Preliminary Edition
Calclabs with Maple for Stewart's Single Variable Calculus, 7th
Offering a universally taught course: this complete exposition of a single varibale calculus elucidates transcendental functions, the notion of a sequence and its limit and the introduction of a limit of a function.
Learn calculus from the new vantage point of a PC-based interactive computer algebra system. This book shows how Maple V, Release 3 and 4 can be applied to topics such as derivatives, integration, sequences, and differential equations. Students learn the essential concepts by combining paper and pencil exercises with problem solving using Maple.
Calculus with Maple
Differential and Integral Calculus with MAPLE
Calculus Using Maple, Calculus with Analysis
Multivariable Mathematics with Maple
A Tutorial Approach
The fully revised edition of this best-selling title presents the modern computer algebra system Maple. It teaches the reader not only what can be done by Maple, but also how and why it can be done. The book provides the necessary background for those who want the most of Maple or want to extend its built-in knowledge, containing both elementary and more sophisticated examples as well as many exercises.
An innovative text that emphasizes the graphical, numerical and analytical aspects of calculus throughout and often asks students to explain ideas using words. This problem driven text introduces topics with a real-world problem and derives the general results from it. It can be used with any technology that can graph and find definite integrals numerically. The derivative, the integral, differentiation, and differential equations are among the topics covered.
The Maple Book
Calculus, Maple Supplement
Advanced Problem Solving with Maple
Multivariable Calculus and Discovering Calculus with Maple Set
Calculus Exploring with Maple
Designed as a supplement to any multivariable calculus texts in order to utilize Maple as an integral part of the instruction. Geared to helping students understand the calculus concepts while taking full advantage of the computing power and graphic capabilities of Maple. Contains 28 modules to guide readers through an array of examples which aid them in visualizing the problem at hand before or after learning the theory. All concepts are developed from the geometric viewpoint rather than abstract definition.
These comprehensive manuals help students use Maple or Mathematica programs more efficiently. These are available for bundling with your Stewart Calculus text at a special discount.
Early Transcendentals
A Maple Approach to Calculus
Reform Calculus
Insights Into Calculus Using Maple V to Accompany Calculus
Calculus with Maple V
Designed to help students learn how to use the Maple computer algebra system to solve problems in calculus, this combination text/lab manual/resource book offers a presentation that should help students get the most out of the Maple computer algebra system and the calculus course.
To accompany Bradley/Smith, Calculus.
Calculus and Exploring Calculus with Maple and Student Solutions Manual for Calculus Set
Exploring Calculus with Maple
Insights Into Calculus Using Maple
Calculus with Maple Labs
Maple V Flight Manual
Contains computer lab projects, sample syllabi, troubleshooting tips, and programming with Maple. Each chapter ends with a summary and a set of exercises.
Maple for Basic Calculus
Concepts and Contexts
Multivariable Calculus Preliminary Edition and Exploring Multivariable Calculus with Maple
Calclabs With Maple for Stewart's Single Variable Calculus
Modeling and Application