The Essential Tool for Mathematics and Modeling
The Essential Tool for Mathematics and Modeling

Mathematics plays a critical role in our modern world, which is why mathematicians, scientists, and engineers everywhere rely on Maple™ software. Maple helps you analyze, explore, visualize, and solve mathematical problems quickly, easily, and accurately.

Most Powerful Math Engine
Maple's world-leading computation engine offers the breadth, depth, and performance to handle every type of mathematics. With Maple, teachers can bring complex problems to life, students can focus on concepts rather than the mechanics of solutions, and researchers can develop more sophisticated algorithms or models.

- Over 5000 functions covering virtually every area of mathematics, including calculus, algebra, differential equations, statistics, linear algebra, geometry, and transforms
- Symbolic, numeric, and hybrid computation algorithms
- World-leading algorithms for solving problems that are beyond the reach of any other software system
- Efficient algorithms and tools for high performance computing and large-scale problem solving

Passionate User Community
The Maple user community is made up of talented, passionate people from around the world who do amazing things with Maple every day. Their passion leads them to share their experiences and content to the benefit of the entire community. As a result, Maple users have access to a vast collection of resources and expertise that go far beyond the product itself.

- MaplePrimes™, a web community dedicated to sharing experiences, techniques, and opinions
- The Maplesoft Application Center and the MapleCloud™ Document Exchange, featuring thousands of examples, applications, and Math Apps contributed by the Maple community
- Teacher and student resource centers, with classroom materials, training videos, social networking communities, tips and techniques, and more

Smart Document Interface
Maple's intuitive interface supports multiple styles of interaction, from Clickable Math™ tools to a sophisticated programming language. Using the smart document environment provided by Maple, you can automatically capture all of your technical knowledge in an electronic form that combines calculations, explanatory text and math, graphics, images, sound, and diagrams.

- Clickable Math interaction, including an easy-to-use math equation editor, Drag-to-Solve™, Smart Popups, and self-documenting context-sensitive menus
- Sophisticated programming language
- 2-D and 3-D plotting and animation, with extensive annotation tools
- Point-and-click tutors and Math Apps for teaching and learning key topics in calculus, algebra, and more
- Extensive document creation and word-processing tools

Application Areas

Calculus
Physics
Matrix and Vector Computations
Algebra
Differential Equations
Engineering
Statistics and Process Control
Math Education
Visualization
Curve Fitting
Optimization
Special Functions

Advanced Mathematics
Geometry
Units and Tolerances
Scientific Data Management
Financial Modeling
String Processing and Linguistic Research
CAD Connectivity
Code Generation
Testing and Assessment
Parallel and Grid Computing
Application Development
Web Deployment
Maple Sets a World Record for the Computation of a Mathematical Constant

Maple was used to set a world record for the computation of the most number of digits of the Landau-Ramanujan constant. This constant arises in a result from number theory concerning the number of integers that are the sum of two square numbers. Dr. David Hare, the manager of the Mathematical Software Development Group at Maplesoft, used Maple and the Maple Grid Computing Toolbox to calculate the value of this constant to 125,079 digits, beating the previous record by over 50,000 digits.
User Stories

**Improving Learning for 2000 Students**
Rose-Hulman Institute of Technology

- Laptop program ensures approximately 2000 students have easy access to Maple, including during lectures
- Visualization of complicated concepts
- Finding patterns and trends in large amounts of data
- Keeps students engaged and eager to learn more

**Discovering “World’s First Self-Righting Object”**
Budapest University of Technology and Economics

- Researchers wanted to define and create a homogeneous 3-D object with exactly one stable and one non-stable equilibrium point
- Involved studying two-parameter family of mono-monostatic objects, looking for convexity
- Process involved large amounts of complex, precise mathematical computation
- Existence long conjectured, finally proven with help of Maple

**Teaching Calculus to 11-Year-Olds**
University of Tasmania

- As an experiment on how technology can fundamentally affect education, taught integral calculus to 11-year-olds
- Over 100 students, 5 schools, average or lower-than-average socio-economic advantages
- 2 hours/week, 6 weeks
- Used Maple to set up solutions to word problems, calculate results, graph functions
- 97/108 children received a passing grade on a test that was based on a first-year university engineering exam
What Customers Are Saying

“Maple goes out of the way to make the learning curve as short as possible.”
Joshua Holden, Rose-Hulman Institute of Technology, USA

“The combination of the consistent user interface, math functions, and visualization tools means that students learn math faster with Maple.”
- Roger Kraft, Purdue University Calumet, USA

“Using Maple made the calculations more thorough and secure; its computational power can calculate and explore very sensitive details, so it was a trusted companion in our discovery process.”
Gábor Domokos, Budapest University of Technology and Economics, Hungary

“The students really appreciate the power and the beauty of Maple, and as a result, gain a greater appreciation of the subjects being studied.”
Joanna Ellis-Monaghan, Saint Michael’s College, USA

“We realized the potential in Maple to start students earlier – it is simple to learn, but powerful enough to let students grasp the concept.”
- Calvin Armstrong, Appleby College, USA

“Based on the comments these students made after the course was over, it is clear that Maple helped spark their interest in Calculus, and made them justifiably confident in their ability to handle it.”
Andrew Fluck, University of Tasmania, Australia
Teaching Resources

Everything you need to bring the benefits of technology to your classroom! Maplesoft provides a vast array of customizable materials to support dynamic classroom lectures, independent student exploration, and learning consolidation. Resources are available for differential calculus, integral calculus, multivariate calculus, differential equations, linear algebra, vector calculus, algebra, precalculus, engineering, trigonometry, and more.

Visit the Teacher Resource Center for:

- Clickable Math and Engineering applications
- Tips and techniques
- Videos and recorded webinars
- Community forums
- Lecture notes
- Interactive concept demonstrations
- Homework questions
- Engineering system models

Featured Content

**Video Series: Teaching Concepts with Maple**
This collection of videos, together with step-by-step Maple applications that you and your students can use and modify, makes it easy to explore a wide variety of mathematical concepts using Clickable Math techniques. Created by Dr. Robert Lopez, Emeritus Professor of Mathematics at the Rose-Hulman Institute of Technology and Maple expert, this series covers topics taken from a wide variety of courses, with more added every month. Subjects include:

- Differential calculus
- Multivariate calculus
- Linear algebra
- Algebra and precalculus
- Integral calculus
- Differential equations
- Vector calculus
- Trigonometry

**Teaching Calculus with Maple: A Complete Kit**
Everything you need to teach Calculus 1 and Calculus 2! Leveraging both Maple and Maple T.A., Teaching Calculus with Maple includes lecture notes, student worksheets, Maple demonstrations, Maple T.A. homework, and more. Developed at the University of Guelph under the leadership of an award-winning teacher and field-tested in classes with hundreds of students, Teaching Calculus with Maple makes it easy to provide students with a rich, effective learning environment.

**Math Apps for Teaching and Learning**
You and your students can explore hundreds of mathematical concepts with interactive, point-and-click Math Apps. Topics include functions, graphing, calculus, statistics, physics, algebra, discrete math, and more.

**Clickable Math Applications for the Classroom**
The idea of powerful mathematics delivered through very visual, interactive, point-and-click methods has launched a new generation of teaching and learning techniques in mathematics. Classroom materials include interactive concept demonstrations, lecture notes, homework assignments, and more.

**Dedicated Student Packages**
Student packages, which are included in Maple, offer focused learning environments in which students can explore and reinforce fundamental concepts in the same way you do in class. Maple provides an environment that allows students to explore concepts and break problems down into smaller steps instead of jumping immediately to the solution.
Student Help Center
The Student Help Center provides an unmatched online support system to students in their math and engineering studies. The site contains a dedicated student forum, online calculators, training videos, and much more.

Application Center
The Application Center features over 2,000 applications and tutorials contributed by the Maplesoft user community. This growing collection shows how Maplesoft solutions are applied to solve technical problems.

Training
Maplesoft offers a comprehensive set of complementary training materials. From training videos to recorded training seminars to downloadable documentation, you have many options to get up to speed with Maplesoft products.

MaplePrimes
MaplePrimes is a web community dedicated to sharing experiences, techniques, and opinions about Maplesoft products, as well as general interest topics in mathematics and engineering.

MapleCloud
You can instantly access content created by Maple users worldwide, including Math Apps contributed to The Möbius Project, using the MapleCloud Document Exchange. This dynamic collection of Maple documents is available from within Maple itself and can be loaded into your Maple session at the click of a button.

Maplesoft Webinars
Maplesoft’s monthly webinars provide an excellent opportunity to learn about interesting applications, new techniques, and products. Hosted live by senior Maplesoft representatives, these one-hour interactive sessions also offer the opportunity to ask questions and interact with the presenter.

E-books and Study Guides
Maple e-books and study guides offer more chances to explore, learn, and practice mathematics. The collection includes the Clickable Calculus Study Guide, which shows how to use Clickable Math techniques to solve hundreds of problems.

Licensing Options
Maplesoft offers a wide variety of flexible licensing options to suit your institution’s budget, infrastructure, and policies. We will be happy to work with you to find the best solution to meet the needs of your institution.

Maple Authorized Distributor
Latin America & Caribbean
Tel.: (305) 861-3881
Email: sales@msmiami.com
Web: www.msiami.com