

# webMATHEMATICA

## The Way the Web Calculates

### Add dynamic computations and visualizations to your web site quickly and easily.

webMathematica is the clear choice for adding interactive calculations to the web. This unique technology enables you to create web sites that allow users to compute and visualize results directly from a web browser.

Built on Java servlets, webMathematica is compatible with any web server, servlet engine, or application server that supports the Servlet 2.0 or later API and gives developers a broad choice of platforms and web solutions to work from. The adoption of modern web standards as the basis for webMathematica makes its integration into existing web infrastructures virtually seamless and future-proof. Several working webMathematica applications can be seen on the product web site.

webMathematica comes in two license configurations: webMathematica Professional and webMathematica Amateur. webMathematica Professional is intended for the development and deployment of sophisticated intranet and internet sites, while webMathematica Amateur is designed for those who wish to showcase their work over the web. Subscribers to Wolfram Research's Premier Service will receive complimentary copies of webMathematica Amateur.

webMathematica is initially available for Windows 95/98/Me/NT/2000, Intel-based Linux platforms, and Solaris with other platforms to follow soon.

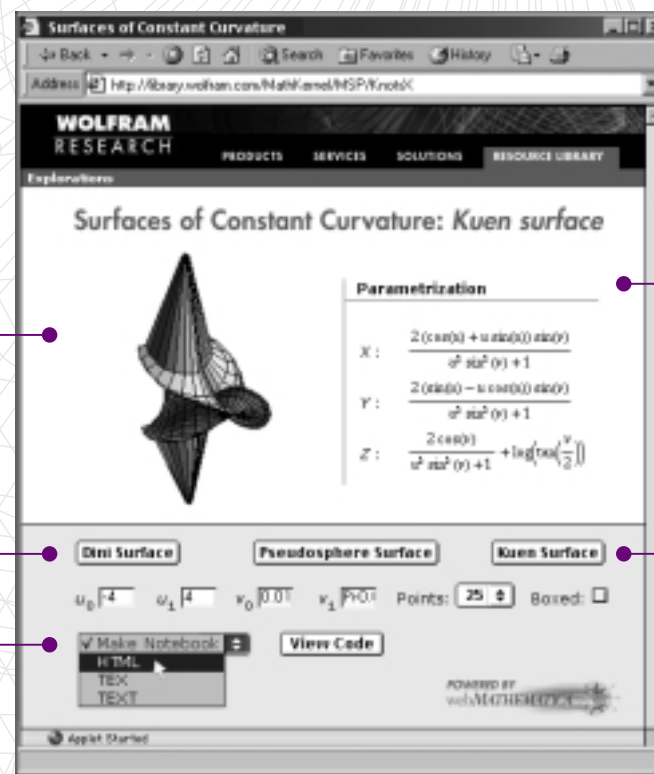
For more information:  
[www.wolfram.com/webmathematica](http://www.wolfram.com/webmathematica)

#### webMathematica enables users to:

- Build custom web sites that provide specialized calculations
- Compute, visualize, and analyze data using a web browser
- Deliver sophisticated courseware and publish interactive books
- Provide active functionality for technical documentation that can be instantly updated from a centralized location
- Integrate computation into existing enterprise infrastructure



Now Shipping!



Client technologies such as JavaScript and Java applets work seamlessly with webMathematica.

Generate and display graphics and visualizations dynamically.

Adjust your calculations interactively.

Select among multiple output formats.

Use familiar web interface elements such as buttons, drop-down lists, and text fields to control computations.

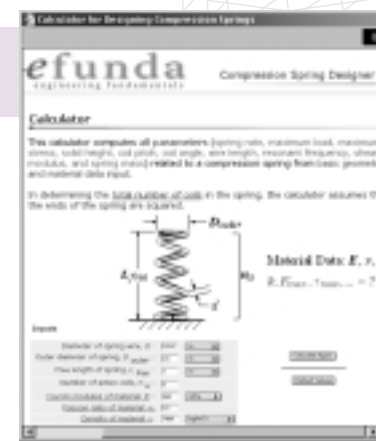
### A sampling of early webMathematica applications:

AnalyticCycling.com takes advantage of the webMathematica engine to deliver a no-compromise, textbook approach to computing cycling performance.  
[www.analyticcycling.com](http://www.analyticcycling.com)

Professor James Wyant at the University of Arizona uses webMathematica to compute and model optical patterns for teaching and research.  
[wyant.optics.arizona.edu/circularAperture/circularAperture.htm](http://wyant.optics.arizona.edu/circularAperture/circularAperture.htm)

SimplyEngineering corporation uses webMathematica to power Calculation City, an online engineering resource with a broad assortment of real-world calculators for stress, load, friction, fluid flow, pressure loss, and many other applications.  
[www.simplyengineering.com](http://www.simplyengineering.com)

Calc101.com offers both free and pay-per-use calculators that lead precollege and college students through integration and differentiation computations.  
[www.calc101.com](http://www.calc101.com)



eFunda offers a variety of useful calculation tools that enable engineering professionals to quickly find key information to aid in the solution of complex design problems.  
[www.efunda.com](http://www.efunda.com)

### Key advantages of webMathematica:

#### For your organization:

- webMathematica is the way to quickly create and distribute solutions to technical computing problems in today's networked environment.
- webMathematica lets you build, test, and deploy specialized web services for computation and visualization faster and at a lower cost than ever before.
- You can develop new applications rapidly without requiring developers to learn new skills or to write a lot of Java code for mathematical content.
- webMathematica takes care of session management and error recovery so your developers don't have to. Your R&D personnel can concentrate on solutions, not implementation of details.

#### For developers:

- webMathematica provides solutions in minutes, not months, of development work and makes your application more robust as well as easier to use and maintain.
- webMathematica makes all of the functionality of Mathematica available for web site development. This easy access to the latest high-level computational algorithms, graphics, and typesetting functions lets you concentrate on solving your problems, not on programming them yourself.

#### For system integration:

- webMathematica's platform-independent technology gives you complete freedom of choice in both your hardware and software tools.
- webMathematica's Java Servlet technology is supported, either natively or through plug-in servlet containers, by all modern web servers as well as by application servers.

## MATHEMATICA TECHtips...

The Mathematica 4.1 compiler and pattern matcher include new optimizations that speed up repetitive operations and calculations involving large arrays and that improve the performance of many other pattern-matching operations. Performance in many cases is several thousand times greater than in previous versions.

[www.wolfram.com/products/mathematica/newin41/parser.html](http://www.wolfram.com/products/mathematica/newin41/parser.html)

### Features that can help you make the most of your Mathematica experience...

It is possible to run external programs from within Mathematica on almost all computer systems. You can use Mathematica to control external C or Java programs or to exchange information and data with these programs. Ways of running your external programs from Mathematica and setting up the MathLink communications API are discussed online.

[library.wolfram.com/howtos/ccode](http://library.wolfram.com/howtos/ccode)

There are numerous ways of exporting results, graphics, and code from Mathematica to other programs. They range from simple copy-and-paste to generation of web animations to creation of stand-alone C++ code.

[library.wolfram.com/howtos/exporting](http://library.wolfram.com/howtos/exporting)

You can encode your Mathematica source code to prevent others from copying your implementation. The Mathematica function Encode writes an encoded version of the source file to a destination file. You can also key-encode files.

[documents.wolfram.com/v4/RefGuide/Encode.html](http://documents.wolfram.com/v4/RefGuide/Encode.html)