

Mathcad[®] product comparison at a glance

AN OVERVIEW OF THE CAPABILITIES BETWEEN MATHCAD 15.0 AND MATHCAD PRIME[®] 1.0

Mathcad 15.0	Mathcad Prime 1.0
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User Interface – The Microsoft Ribbon UI in Mathcad Prime 1.0 makes finding the available functionality easier to those users familiar with Microsoft[®] Office[®]. New tabbed interface, coupled with the modern visual style, improve productivity and aesthetics.

WYSIWYG Interface

Classic Mathcad toolbars and menus	Microsoft Office 2007 Ribbon UI
Classic Mathcad look and feel	New, modern visual style and design
MDI (multiple document interface)	Tabbed worksheets within one Mathcad window

Documentation – With Mathcad Prime 1.0, you spend less time documenting and formatting your calculations by using enhanced navigation, display and view of your work.

Full Unicode support

Find and replace within a worksheet

Horizontal & vertical alignment, and guidelines	Snap-to-grid makes worksheet navigation and editing much easier
Standard print preview	What you see is what you print, previewless display
Limited header and footer capabilities	Enhanced in-line headers and footers
Collapsible/lockable areas	∅
Live math within text regions	∅
Worksheet controls like pushbuttons and slider bars	∅
File export support (save as XML, HTML, RTF)	Full native XML save as XPS
Worksheet templates	∅

Mathcad 15.0	Mathcad Prime 1.0
Standard Mathcad text editing	Improved text editing and manipulation
Electronic books	∅
∅	Optional grid paper background
∅	Document-centric, print-ready view
Region color-formatting and borders	∅
∅	Literal subscripts can be in the middle of a variable name

Numerics and Symbolic Math – Mathcad Prime 1.0’s core competency—editing and creation of standard math—are now even easier to use, delivering a shorter learning curve and improvements in overall usability.

Automatic real-time recalculation

Real, imaginary and complex number support

Numeric evaluation

Standard Mathcad equation editing	Simplified and enhanced equation editing
Symbolic evaluation	∅

Units – Dynamic unit checking in Mathcad Prime 1.0, with support for mixed units in matrices and tables, provides more flexibility, while retaining strict adherence to proper conversion and display. Automatic unit highlighting and labeling improve clarity and readability of documents.

Full support for standard engineering units

Static unit checking	Dynamic unit checking
∅	Mixed units support in Matrices and Tables
∅	Units in plots
∅	More complete unit support in all numeric functions
∅	More complete unit support in solvers
∅	Visually distinguishable units, functions and variables

Mathcad 15.0	Mathcad Prime 1.0
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Operators and Functions – Consolidated extension packs in Mathcad Prime 1.0 provide full breadth of functionality. The searchable function library makes it easier to discover the best function to use.

Hundreds of native, built-in functions and operators

Design of Experiments (DoE) functionality

Image Processing, Signal Processing and Data Analysis functions

Error tracing

User-defined functions	∅
Wavelets	∅
∅	All function sidebar makes it easy to find functions
∅	Special highlighting shows operators and operands
Separate, included extension packs	Extension pack functions integrated into functions area
∅	New Fourier functions that are faster and more flexible
∅	Improved performance for a number of computational signal and image functions
∅	Most functions now accept units
∅	New Read/Write functions: READCSV and WRITECSV, READEXCEL and WRITEEXCEL, READTEXT and WRITETEXT functions
∅	New linear and circular convolution operators
∅	New row operator for matrices
∅	Derivative, roots, product and summation operators can be entered as one operator, and easily changed to other forms

Mathcad 15.0	Mathcad Prime 1.0
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Plotting and Graphing – With Mathcad Prime 1.0, you will spend less time navigating and editing plot parameters and settings, improved manipulation of plots, along with improved visualization and publishability.

2D plots, including x-y, polar, column, bar, stem, scatter, box, effects and waterfall plots

2D contour plots	
2D plot legends and titles	∅
Vector field plots	∅
3D surface, scatter and bar plots	∅
Animation	∅
∅	Updated plot visualization and simplified editing and navigation
∅	Unlimited number of line markers
∅	Mixed units in plots

Matrices and Tables – Matrix and table navigation in Mathcad Prime 1.0 is revamped, with a more intuitive interface, along with support for mixed units throughout Mathcad.

∅	Easy matrix navigation and editing
∅	Mixed units in matrices
∅	New Spec Tables for defining variables

Solving – Display of solve block elements is enhanced to simplify understanding for new users in Mathcad Prime 1.0.

Linear and non-linear system, ODE and multivariable solvers

PDE Solvers	∅
Symbolic solvers	∅
∅	Intuitive Solve Block region with labeled areas
∅	Solve block regions can be moved as a group
Choice of solving algorithms	Default solving algorithms

Mathcad 15.0	Mathcad Prime 1.0
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Programming – Overall usability of Programming in Mathcad Prime 1.0 is greatly enhanced by utilizing easy-to-understand standard syntax, and allowing direct typing for operator insertion.

Mathcad If-Otherwise programming	More intuitive, If-Else, If-Else and If-Also, If-Also programming semantics
∅	Programming operators can be typed in directly

Customization, Integration and Interoperability – The UI and calculation engine in Mathcad Prime 1.0 are split to enable far more flexible interoperability and powerful integrations with other applications. Included files can be cached to ease sharing across your organization.

Integration with PTC’s Creo™ Elements/Pro™ (formerly Pro/ENGINEER), Windchill® and Windchill ProductPoint®

Reference/Include external worksheets and data files	
Import and write to Excel, csv and txt files	
Excel, Matlab, ODBC and Scriptable object components	New ReadExcel/WriteExcel functions work seamlessly with .xlsx and .xls files
Allows for I/O with Matlab, Inventor®, SolidWorks®	∅
Knovel®, Truenumbers® and Kornucopia® integration	∅
API, Web controls, automation and scripting support	∅
∅	Included (referenced) worksheets and data files can be cached

Resources, Help and Support – Mathcad Prime 1.0 offers new learning, support and introductory video tutorials, which are integrated with the help system to provide the answers you need, more quickly and with less searching.

Extensive Help system, tutorials and examples	
PTC Global Maintenance Support Program	
Mechanical, Electrical and Civil Engineering Libraries	∅
∅	PTC’s LearningConnector and technical support knowledge-base article content integrated into Help
∅	Introductory video tutorials linked from Help

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Supported Systems and Requirements – Mathcad Prime 1.0 is updated to support current platforms and standard applications such as Microsoft Office 2007.

Microsoft Windows XP, Vista and Windows 7 – 32-bit (native)/64-bit

Available in English, French, German, Japanese, Italian, Spanish, Korean, Chinese (Simplified, Traditional) and Russian

Supports Microsoft Office 2003, 2007	Supports Microsoft Office 2003, 2007
Supports .mcd & .xmcd file types	Supports OpenXML format .mcdx files
∅	Converts .mcd and .xmcd file types to new .mcdx type Converts all previous versions of Mathcad into Mathcad Prime
∅	Easier license acquisition and management

Learn more about Mathcad and Mathcad Prime

For more information, visit www.ptc.com/products/mathcad

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