How to Use This *User's Guide*

This *User's Guide* is organized into the following parts:

The Basics
This section contains a quick introduction to Mathcad's features and workspace, including resources available in the product and on the Internet for getting more out of Mathcad. Be sure to read this section if you are a new Mathcad user.

Creating Mathcad Worksheets
This section describes in more detail how to create and edit Mathcad worksheets. It leads you through editing and formatting equations, text, and graphics, as well as opening, editing, saving, and printing Mathcad worksheets and templates.

Computational Features
This section describes how Mathcad interprets equations and explains Mathcad's computational features: units of measurement, complex numbers, matrices, built-in functions, equation-solving, programming, and so on. This section also describes how to do symbolic calculations and how to use Mathcad's two- and three-dimensional plotting features.

The *User's Guide* ends with reference appendices and a comprehensive index.

As far as possible, the topics in this guide are described independently of each other. This means that once you are familiar with the basic workings of the program, you can just select a topic of interest and read about it.

If you're trying to learn by reproducing examples from this *User's Guide*, keep in mind that some of them may be difficult to recreate because they contain equations other than those displayed, because default plot formats and numerical formats are not always used, because they involve random number generation, or because they use data files not available to you. In addition, a Mathcad window takes on a variety of appearances depending on how you've configured the Standard, Math, and Formatting toolbars.

Please also see the Mathcad Resource Center (choose **Resource Center** from the **Help** menu) for tutorials, examples, and application files that you can use directly in your own Mathcad worksheets.

Notations and conventions

This *User's Guide* uses the following notations and conventions:

Italics represent scalar variable names, function names, and error messages.

`Bold Courier` represents keys you should type.

■ Filled squares indicate steps you should follow.

Bold represents a menu command. It is also used to denote vector and matrix valued variables.

An arrow such as that in "**Graph⇒X-Y Plot**" indicates a pull-right menu command.

Function keys and other special keys are enclosed in brackets. For example, [↑], [↓], [←], and [→] are the arrow keys on the keyboard. [**F1**], [**F2**], etc., are function keys; [**BkSp**] is the Backspace key for backspacing over characters; [**Del**] is the Delete key for deleting characters to the right; [**Ins**] is the Insert key for inserting characters to the left of the insertion point; [**Tab**] is the Tab key; and [**Space**] is the space bar.

[**Ctrl**], [**Shift**], and [**Alt**] are the Control, Shift, and Alt keys. When two keys are shown together, for example, [**Ctrl**]**V**, press and hold down the first key, and then press the second key.

The symbol [↵] and [**Enter**] refer to the same key.

When this *User's Guide* shows spaces in an equation, you need not type the spaces. Mathcad automatically spaces the equation correctly.

Pro

This *User's Guide* applies to Mathcad Professional, Mathcad Professional Academic, and Mathcad Standard Edition. If you're not using Mathcad Professional or Mathcad Professional Academic, certain features described in this *User's Guide* will not be available to you. The word ***Pro*** appears:

- In the page margin, as it does above, whenever a section in a chapter describes a feature or a function that is unique to Mathcad Professional.
- In the page footer, whenever all features described in that chapter are unique to Mathcad Professional.

This *User's Guide* also describes some product features that are available only in add-on packages for Mathcad. For example, some numerical solving features and functions are provided only in the Expert Solver available from MathSoft, Inc. or your local distributor or software reseller.