Master data management, analysis,
and automation with Excel 2011 for Mac

Learn
Excel 2011
for Mac

Guy Hart-Davis

Apress®

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Learn Excel 2011 for Mac

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This book is dedicated to Rhonda and Teddy.

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Introduction

Do you need to get your work done with Excel—smoothly, confidently, and as quickly as possible?

If so, you've picked up the right book.

Who Is This Book For?

This book is designed to help beginning and intermediate users get up to speed quickly with Excel 2011 for Mac and immediately become productive with it.

If you need to learn to use Excel to accomplish everyday tasks, at work or at home, you'll benefit from this book's focused approach and detailed advice. You can either start from the beginning of the book and work through the chapters in sequence, or use the Table of Contents or the Index to find the topic you need immediately, and then jump right in there.

What Does This Book Cover?

This book contains three parts that cover everything you need to know to use Excel 2011 effectively.

Part 1, "Becoming Proficient with Excel:Mac," makes sure you know essential moves for using Excel:

- Chapter 1, "Learning the Secrets of the Excel:Mac Interface," teaches you the ins and outs of the four main means of controlling Excel: the Ribbon, the toolbars, the menus, and keyboard shortcuts. You grasp how to navigate through worksheets and workbooks; learn about quick ways of entering text in workbooks; and use splitting, freezing, and custom views to display exactly the items you need.
- Chapter 2, "Configuring Excel:Mac to Suit the Way You Work," shows you how to make Excel work you way by setting the most important preferences and by customizing the keyboard shortcuts, toolbars, menus, menu bars, and Ribbon. You also learn how to open workbooks automatically when you launch Excel and how you can save the layout of multiple open workbooks as a workspace that you can instantly restore.

- Chapter 3, “Creating Effective Workbooks and Templates,” explains how to create workbooks in which you can enter, edit, and manipulate data quickly and effectively. You learn which file formats to save the workbooks in, how to how to add property information to help you identify workbooks when searching, and how to make the most of templates—including creating templates of your own. You also learn how to organize worksheets, lay data out effectively, define named ranges to make navigation easier, and create a collapsible worksheet.
- Chapter 4, “Formatting Your Worksheets Quickly and Efficiently,” shows you how to format worksheets quickly and efficiently using the various tools that Excel provides. We start with formatting rows and columns—everything from changing column width and row height to inserting and deleting rows and columns and hiding sensitive data. Then we go through how to apply straightforward formatting, how to apply conditional formatting to quickly flag values that need attention, and how to use data validation to check for invalid entries. Finally, we cover how to save time by using table formatting or Excel’s styles, and how to add headers and footers to worksheets.

Part 2, “Performing Calculations and Presenting Data,” gets you up to speed with formulas, functions, charts, and graphical elements such as pictures and sparklines:

- Chapter 5, “Performing Custom Calculations with Formulas,” makes sure you know what formulas and functions are, and what the difference between the two is. This chapter then teaches you how to create your own formulas using Excel’s calculation operators, starting with straightforward formulas that use a single calculation operator each, and then moving on to more complex formulas that use multiple calculation operators. You also learn how to override Excel’s default order for evaluating operators and how to troubleshoot common problems that occur with formulas.
- Chapter 6, “Using Excel’s Built-In Functions,” explains how to insert functions in your worksheets using the various tools that Excel provides, find the functions you want, and point the functions to the data they need for the calculations. The second part of the chapter reviews Excel’s different categories of functions, such as database functions, logical functions, and math and trigonometric functions, and gives examples of how to use widely used functions.
- Chapter 7, “Creating Clear and Persuasive Charts,” teaches you how to present data clearly and persuasively using Excel’s wide range of charts. You learn the different ways you can place charts in worksheets, the components of charts, and the types of charts you can use. We then dig into how you create a chart from your data, lay it out the way you want, and then give it the look it needs. We also look at ways of reusing the custom charts you create and ways of using Excel charts in Word documents or PowerPoint presentations.
- Chapter 8, “Using Data Bars, Color Scales, Icon Sets, and Sparklines,” shows you how to add visual appeal to your worksheets by using those four types of single-cell graphical elements. You quickly get the hang of using data bars to compare the values in a range of cells, adding color scales to adjust the background colors of cells to provide a visual reference to their values, and using icon sets to provide quick visual reference to performance. And you learn to create single-cell charts using sparklines.

- Chapter 9, “Illustrating Your Worksheets with Pictures, SmartArt, and More,” explains ways of giving your workbooks visual interest by adding graphics, shapes, SmartArt diagrams, and WordArt items. You learn how to make a picture look the way you want it, how to position graphical objects wherever you need them, and how to position graphical items relative to cells and how to arrange graphical objects to control which ones are visible.

Part 3, “Analyzing Data and Sharing and Automating Your Workbooks,” shows you how to analyze, manipulate, and share the workbooks you’ve built:

- Chapter 10, “Creating Tables with Databases,” covers using Excel’s tables to create databases for storing information, sorting it, and filtering it to find the records you need. You also learn how to put Excel’s database functions to work with tables.
- Chapter 11, “Solving Business Questions with What-If Analysis, Goal Seek, and Solver,” teaches you how to analyze your data using four powerful tools. You learn to use data tables to assess the impact of one or two variables on a calculation and how to use scenarios to experiment with different sets of values without changing your core data. You also learn to use Goal Seek to solve single-variable problems and Solver to crack multi-variable problems.
- Chapter 12, “Analyzing Data with PivotTables,” explains what PivotTables are and how you can use them to examine the data in your worksheets and find the secrets it contains. You learn how to create PivotTables either using Excel’s automated tool or by placing fields manually where you need them, how to change the PivotTable once you’ve created it, and how to sort and filter the data it contains.
- Chapter 13, “Collaborating and Sharing with Macs and Windows PCs,” takes you through ways of sharing your workbooks with others. We start by covering how to print worksheets, create PDF files from them, and export data to comma-separated values files. We then move on to sharing workbooks so that multiple people can work on them at the same time, tracking the changes if necessary so that you can review them. We finish by looking at how to merge changes from separate copies of the same workbook into one workbook and how to consolidate multiple worksheets into a single worksheet.
- Chapter 14, “Automating Tasks with Macros and VBA,” shows you how to record macros to eliminate the drudgery of performing the same task over and over again. You learn how to run macros using the menus or toolbars, using keyboard shortcuts, or even by assigning them to worksheet objects such as command buttons. I also introduce you to the Visual Basic Editor and show you how to edit a macro to change what it does.

Conventions Used in This Book

This book uses several conventions to make its meaning clear without wasting words:

- *Ribbon commands.* The ~TRA arrow shows the sequence for choosing an item from the Ribbon. For example, “choose Layout ~TRA Print ~TRA Preview” means that you click the Layout tab of the Ribbon (displaying the tab’s contents), go to the Print group, and then click the Preview button.
- *Menu commands.* The ~TRA arrow shows the sequence of commands for choosing an item from the menu bar. For example, “choose Data ~TRA Data Table” means that you open the Data menu and then click the Data Table item on it.

- *Special paragraphs.* Special paragraphs present information that you may want to pay extra attention to. Note paragraphs contain information you may want to know; Tip paragraphs present techniques you may benefit from using; and Caution paragraphs warn you of potential problems.
- *Check boxes.* Excel uses many check boxes—the square boxes that can either have a check mark in them (indicate that the option is turned on) or not (indicating that the option is turned off). This book tells you to "select" a check box when you need to put a check mark in the check box, and to "clear" a check box when you need to remove the check mark from it. If the check box is already selected or cleared, you don't need to change it—just make sure it's set the right way.
- *Keyboard shortcuts.* In Excel, you can often save time and effort by using a keyboard shortcut rather than a Ribbon command or a menu command. This book uses + signs to represent keyboard shortcuts. For example, "press Cmd+S" means that you hold down the Cmd key, press the S key, and then release the Cmd key. "Press Cmd+Option+T" means that you hold down the Cmd key and the Option key, press the T key, and then release the Cmd key and the Option key.

Part I

Becoming Proficient with Excel:Mac

In this part of the book, you become proficient at the essentials of Excel:Mac.

In Chapter 1, you learn the ins and outs of the four main means of controlling Excel: the Ribbon, the toolbars, the menus, and keyboard shortcuts. You grasp how to navigate through worksheets and workbooks; learn about quick ways to enter text in workbooks; and use splitting, freezing, and custom views to display exactly the items you need.

In Chapter 2, we cover how to make Excel work your way by setting the most important preferences and by customizing the keyboard shortcuts, toolbars, menus, menu bars, and Ribbon. You also learn how to open workbooks automatically when you launch Excel and how you can save the layout of multiple open workbooks as a workspace that you can instantly restore.

In Chapter 3, you study how to create workbooks in which you can enter, edit, and manipulate data quickly and effectively. You learn which file formats to save the workbooks in, how to add property information to help you identify workbooks when searching, and how to make the most of templates—including creating templates of your own. You also learn how to organize worksheets, lay out data effectively, define named ranges to make navigation easier, and create a collapsible worksheet.

In Chapter 4, we go through how to format worksheets quickly and efficiently using the various tools that Excel provides. We start with formatting rows and columns—everything from changing column width and row height to inserting and deleting rows and columns and hiding sensitive data. Then we see how to apply straightforward formatting, how to apply conditional formatting to quickly flag values that need attention, and how to use data validation to check for invalid entries. Finally, we cover how to save time by using table formatting and Excel's styles, and how to add headers and footers to worksheets.

Chapter 1

Learning the Secrets of the Excel:Mac Interface

1In this chapter, you'll learn the ins and outs of the Excel:Mac interface and the many secrets it holds.

We'll start by looking at the four main ways to control Excel: the Ribbon, the toolbars, the menus on the menu bar, and keyboard shortcuts. These give you great flexibility in the way you control Excel, especially when you set them up as you prefer.

From there, we'll discuss how to navigate through worksheets and workbooks. We'll then go through the various ways in which you can get data into your Excel workbooks—from importing existing data to entering it more quickly using AutoCorrect, AutoFill, and the Scrapbook.

Toward the end of the chapter, I'll show you the smart ways to view your workbooks so you can work quickly and efficiently. These include splitting the window to show different parts of the worksheet at the same time, opening extra windows, and freezing key rows and columns so that they stay onscreen when you scroll to other parts of the worksheet. You can even create custom views to keep your data laid out exactly as you need it.

Getting Ready to Learn Excel's Secrets

You'll probably want to have Excel running as you go through this chapter so you can try out the modifications and techniques that interest you. So launch Excel if it's not already running: either click the Excel icon on the Dock or (if there isn't one) click the desktop to activate the Finder, choose **Go ➤ Applications**, and then double-click the Excel icon in the Microsoft Office 2011 folder.

Excel may display the Excel Workbook Gallery dialog box. If so, click the Excel Workbook icon in the All category and then click the Choose button. This makes Excel create a blank workbook rather than one based on a content template. We'll look at how to use the Excel Workbook Gallery to create workbooks in Chapter 3.

Four Ways to Control Excel

To control Excel, you give commands. For example, when you need a new workbook, you give the command to create a new workbook.

In Excel 2011 (see Figure 1–1), you can give commands in the four main ways we noted:

- *Menus.* Like most Mac applications, Excel provides a set of menus that appear on the Mac OS X menu bar when Excel is the active application. To give a command, you click the menu, and then click the command.
- *Ribbon.* The Ribbon is the new control strip introduced in Excel 2011. To give a command, you click its button or control.
- *Toolbars.* Excel includes the Standard toolbar and the Formatting toolbar. The Standard toolbar appears across the top of the Excel window by default, as in Figure 1.1. To give a command, you click its button or control.
- *Keyboard shortcuts.* To give a command, you press the associated key combination.

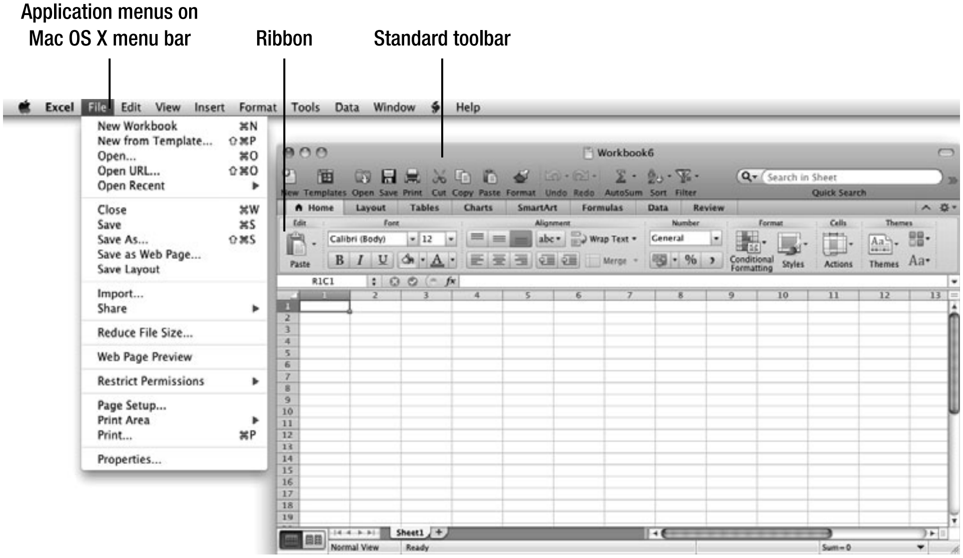
Application menus on Mac OS X menu bar
Ribbon
Standard toolbar
Excel
File
Edit
View
Insert
Format
Tools
Data
Window
Help
New Workbook ⌘N
New from Template... ⇧⌘P
Open... ⌘O
Open URL... ⇧⌘O
Open Recent
Close ⌘W
Save ⌘S
Save As... ⇧⌘S
Save as Web Page...
Save Layout
Import...
Share
Reduce File Size...
Web Page Preview
Restrict Permissions
Page Setup...
Print Area
Print... ⌘P
Properties...
Workbook6
New
Templates
Open
Save
Print
Cut
Copy
Paste
Format
Undo
Redo
AutoSum
Sort
Filter
Search in Sheet
Quick Search
Home
Layout
Tables
Charts
SmartArt
Formulas
Data
Review
Edit
Font
Alignment
Number
Format
Cells
Themes
Paste
Calibri (Body)
12
Wrap Text
Merge
General
Conditional Formatting
Styles
Actions
Themes
R1C1
Sheet1
Normal View
Ready
Sum=0

Figure 1–1. *You can control Excel using the Ribbon, the toolbars, the menus on the menu bar, or keyboard shortcuts.*

Let's dig into each of these in turn, starting with the Ribbon.

Secrets of the Ribbon

The Ribbon is the control strip that runs across the top of the Excel window below the window's title bar and any toolbars you've chosen to display. The Ribbon is a control bar that contains multiple tabs, each containing several groups of controls. At any time, the Ribbon displays one tab's contents; to switch to the contents of another tab, you click that tab. As you can see in Figure 1–2, the active tab is a different color than the other tabs, so you can easily pick it out.

> **NOTE:** To make clear where you find the controls, I give Ribbon instructions in the sequence tab–group–control. For example, "choose **Formulas ➤ Audit Formulas ➤ Trace Precedents**" means that you click the Formulas tab to display its contents, go to the Audit Formulas group (without clicking it), and then click the Trace Precedents button.

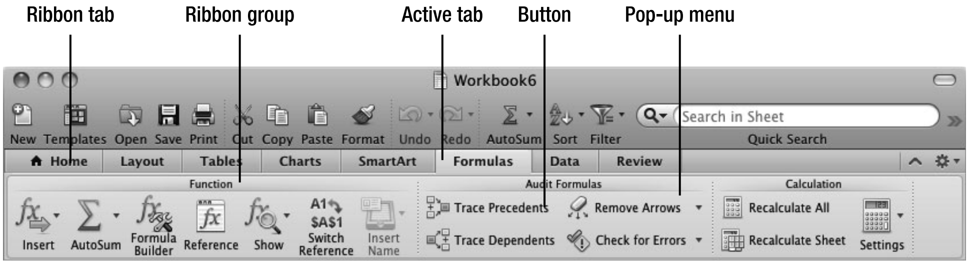
Ribbon tab
Ribbon group
Active tab
Button
Pop-up menu
Workbook6
New
Templates
Open
Save
Print
Cut
Copy
Paste
Format
Undo
Redo
AutoSum
Sort
Filter
Search in Sheet
Quick Search
Home
Layout
Tables
Charts
SmartArt
Formulas
Data
Review
Function
Insert
AutoSum
Formula Builder
Reference
Show
A1 A1 Switch Reference
Insert Name
Audit Formulas
Trace Precedents
Trace Dependents
Remove Arrows
Check for Errors
Calculation
Recalculate All
Recalculate Sheet
Settings

Figure 1–2. *The active tab of the Ribbon appears in a different color than the other tabs. Each tab contains groups of controls, such as buttons and pop-up menus.*

Understanding How the Ribbon's Tabs Work

Most of the time, the Ribbon displays eight tabs that contain controls for most normal operations in Excel:

- *Home.* This tab contains controls for cut, copy, and paste; font, alignment, and number formatting; conditional formatting and styles; inserting and deleting rows, columns, and cells; and applying themes.
- *Layout.* This tab contains controls for manipulating page setup, changing the view, choosing which items to print, and arranging workbook windows.
- *Tables.* This tab contains controls for working with data tables, which you use for creating databases in Excel.
- *Charts.* This tab contains controls for inserting charts and sparklines (miniature charts that fit in a single cell), choosing the layout for charts and sparklines, and applying layouts and styles to charts.

- *SmartArt.* This tab contains controls for inserting and formatting SmartArt graphics.
- *Formulas.* This tab contains controls for inserting functions, auditing formulas, and controlling how Excel performs calculations.
- *Data.* This tab contains controls for sorting and filtering data, creating PivotTables and performing what-if analysis, connecting to external data source, validating data, and grouping and outlining worksheets. (Chapter 3 discusses grouping and outlining.)
- *Review.* This tab contains controls for checking spelling, working with comments, applying protection to a worksheet or workbook, and sharing a workbook.

As well as these standard tabs, the Ribbon contains other tabs that it displays only when you need them. These are sometimes called *context-sensitive tabs*. For example, when you select a chart, Excel automatically displays the Chart Layout tab and the Format tab (see Figure 1–3).

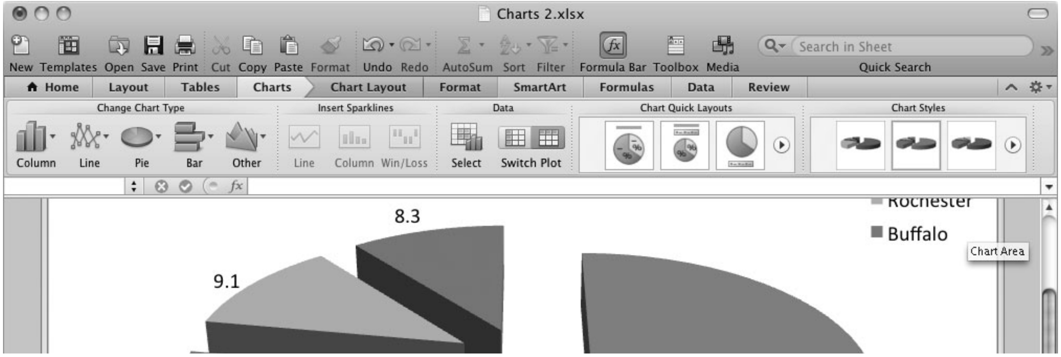
Charts 2.xlsx
New
Templates
Open
Save
Print
Cut
Copy
Paste
Format
Undo
Redo
AutoSum
Sort
Filter
Formula Bar
Toolbox
Media
Search in Sheet
Quick Search
Home
Layout
Tables
Charts
Chart Layout
Format
SmartArt
Formulas
Data
Review
Change Chart Type
Column
Line
Pie
Bar
Other
Insert Sparklines
Line
Column
Win/Loss
Data
Select
Switch Plot
Chart Quick Layouts
Chart Styles
8.3
9.1
Rochester
Buffalo
Chart Area

Figure 1–3. *The Ribbon displays context-sensitive tabs when you select an object for which tabs are available. Here, the Chart Layout tab and Format tab appear on the Ribbon because a chart is active.*

NOTE: Office:Mac got the Ribbon late compared to Office for Windows, but in many ways Office:Mac has lucked out—its Ribbon is the better of the two. In Office for Windows, the Ribbon replaces the menu bar and the toolbars, so you have to use it unless you set up myriad keyboard shortcuts. In Office:Mac, the Ribbon supplements the menu bar and the toolbars, and you can choose how much to use it. Normally, you'll want to leave the Ribbon on so you can access the extra features it provides; but if you find the menus and toolbars contain all the commands you need, you can turn the Ribbon off.

Understanding How the Ribbon's Groups and Controls Work

Chances are you got the hang of using the Ribbon's tabs the first time you used Excel. The groups and controls are a little trickier because they change depending on whether the Excel window is wide enough to display the entire Ribbon.

When the Excel window *is* wide enough, all the groups appear, and they display their controls—the buttons, pop-up menus, check boxes, and so on—in their most spacious arrangement. For example, the top part of Figure 1–4 shows the rightmost sections of the Layout tab of the Ribbon. All the controls in the Print group and the Window group appear with labels, so you can easily identify each control.

But when there's less space, Excel gradually collapses parts of the Ribbon so as to display as much as possible in the available space. For example, the middle part of Figure 1–4 shows the rightmost sections of the Layout tab again, but this time the labels have disappeared from the Split button, Arrange pop-up menu, Save Layout button, and Freeze Panes pop-up menu. In the Print group, the Fit To label still appears, but Excel has removed the "page(s) wide" and "page(s) tall" labels to save space.

When the window is even narrower, Excel collapses the groups and controls further. In the lower part of Figure 1–4, you can see that the Print group now contains only the Preview button and the Setup button. But you can click the Setup button to display the Print Setup dialog box, in which you can configure all the Print group settings the Ribbon has hidden, not to mention other settings.

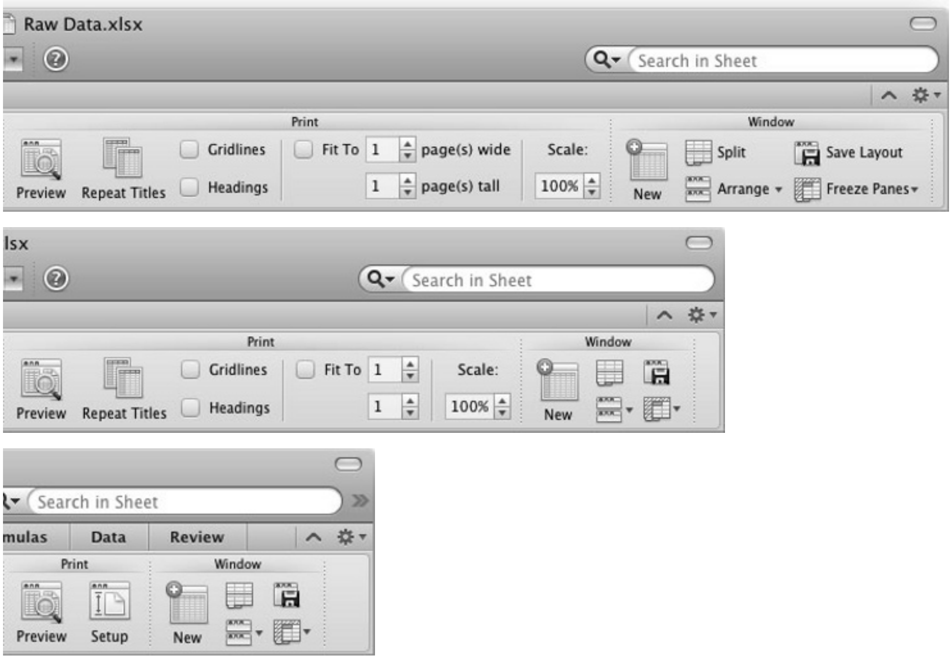
Raw Data.xlsx
Search in Sheet
Print
Window
Preview
Repeat Titles
☐ Gridlines
☐ Headings
☐ Fit To
1
page(s) wide
1
page(s) tall
Scale:
100%
New
Split
Arrange
Save Layout
Freeze Panes
lsx
Search in Sheet
Print
Window
Preview
Repeat Titles
☐ Gridlines
☐ Headings
☐ Fit To
1
1
Scale:
100%
New
Search in Sheet
mulas
Data
Review
Print
Window
Preview
Setup
New

Figure 1–4. *As the Excel window becomes narrower, Excel hides first the labels for the less important controls and then the controls themselves, as you can see here with the controls in the Print group and Window group of the Layout tab.*

By automatically changing the Ribbon to suit the window width, Excel keeps as many controls as possible at the tip of your mouse. But because labels may not appear, you will sometimes need to display the ScreenTip to identify a control; to display the ScreenTip, hold the mouse pointer over the control for a moment (see Figure 1–5).

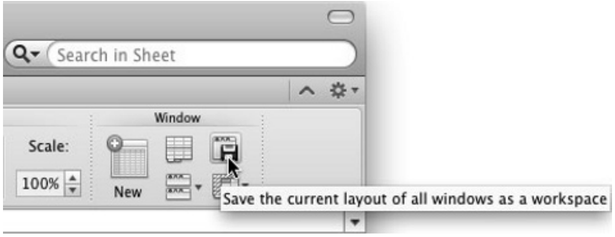

Figure 1–5. *When a control's label doesn't appear on the Ribbon, hold the mouse pointer over the control to display a ScreenTip explaining what it does.*

Further, because some controls may appear in different places when the Ribbon's whole width isn't displayed, you may sometimes need to hunt for the controls you need. This book assumes that the window is displayed wide enough for you to see all the controls on the Ribbon, but it notes some of the disappearing controls that can cause confusion.

If you can't see a command that's supposed to be there, have a poke around the remaining controls in the group to find where Excel has hidden the control, or to see if one of the controls opens a dialog box that contains the controls. (Or use the menu alternative if there is one.)

Collapsing the Ribbon

When you need more space to work on a worksheet, collapse the Ribbon to just its tab bar (see Figure 1–6) in one of these ways:

- Click the tab that's currently active.
- Click the Collapse Ribbon button (the ^ button) at the right end of the Ribbon.
- Choose **View ➤ Ribbon** from the menu bar (removing the check mark next to the Ribbon item).
- Press Cmd+Option+I.

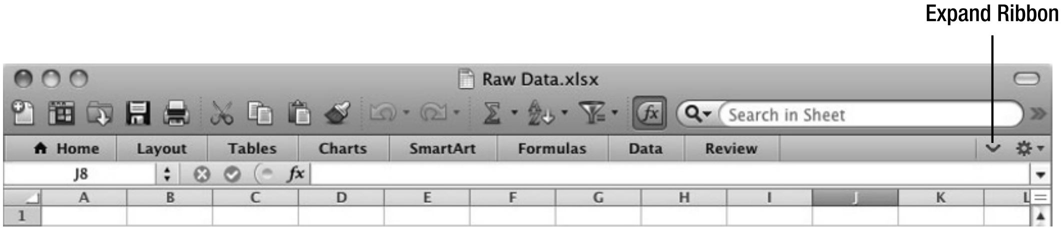

Figure 1–6. *Click the Collapse Ribbon button to collapse the Ribbon to just its tabs. Click the Expand Ribbon button (which replaces the Collapse Ribbon button) to expand the Ribbon again.*

As you'd guess, you use almost the same moves to display the Ribbon again:

- Click the tab you want to see.
- Click the Expand Ribbon button (the ∨ button) at the right end of the Ribbon.
- Choose **View** ➤ **Ribbon** from the menu bar.
- Press Cmd+Option+I.

TIP: If you don't want to use the Ribbon, you can turn it off completely. And if you do want to use it, you can choose which tabs appear and the order they appear in. See the section "Customizing the Ribbon" in Chapter 2 for details.

Secrets of the Toolbars

Excel comes with two built-in toolbars—Standard and Formatting—but you can create as many others as you need. You can choose which toolbars to display and how to display them. And you can customize both the built-in toolbars and your own toolbars, as you'll see in Chapter 2.

Choosing Which Toolbars to Display

First, decide which toolbars you want to display. The easiest way to do this is to Ctrl+click or right-click a toolbar that's displayed, click or highlight the Toolbars item on the context menu, and then click the toolbar you want to display or hide. Excel puts a check mark next to a displayed toolbar on the Toolbars submenu. If the toolbar is displayed, you click to remove the check mark and hide the toolbar.

If no toolbar is displayed, choose **View** ➤ **Toolbars** to display the Toolbars submenu on the View menu, and then click the toolbar you want to display.

Switching the Standard Toolbar Between Icons and Text and Icons Only

Next, choose whether to display the buttons on the Standard toolbar as icons with text labels or as icons only. If you find the text labels make the icons easier to identify, they're worth the small amount of extra space they take up.

To switch between icons and labels and icons only, Ctrl+click or right-click the Standard toolbar and then click the Icon and Text item or the Icon Only item on the context menu, as appropriate.

NOTE: The Formatting toolbar displays only icons—you don't have the option of displaying text labels for its buttons.

Undocking and Docking the Formatting Toolbar

At first, Excel displays the Standard toolbar at the top of the window, between the title bar and the Ribbon (unless you've turned off the Ribbon). The same goes for the Formatting toolbar if you display it.

The Standard toolbar remains docked all the time, but you can undock the Formatting toolbar if you prefer to have it floating, so you can position it freely on your Desktop.

To undock the Formatting toolbar, Ctrl+click or right-click the toolbar and then click Dock Toolbar in Window on the context menu to remove the check mark. Excel undocks the toolbar and displays it as a floating toolbar that you can reposition as needed (see Figure 1–7).

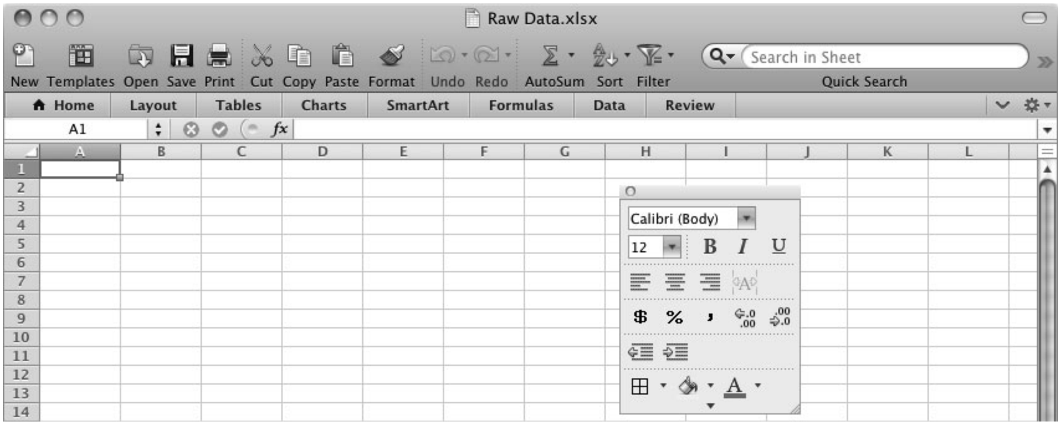
Raw Data.xlsx
New
Templates
Open
Save
Print
Cut
Copy
Paste
Format
Undo
Redo
AutoSum
Sort
Filter
Search in Sheet
Quick Search
Home
Layout
Tables
Charts
SmartArt
Formulas
Data
Review
A1
fx
A B C D E F G H I J K L
1 2 3 4 5 6 7 8 9 10 11 12 13 14
Calibri (Body)
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Figure 1–7. *You can undock the Formatting toolbar to position it anywhere on the screen. To free up the Excel window, position the toolbar outside the window. When you need the formatting controls close to your data, position the toolbar over the Excel window like this.*

TIP: You can toggle the display of the docked toolbars on and off by clicking the jellybean button (the gray rounded-rectangle button) at the right end of the title bar.

Secrets of the Menu Bar

If you've used other Mac applications, you probably know how to use the menu bar:

1. If the application for which you want to issue a command isn't active, click one of the application's windows to make it active. Mac OS X then displays the application's menus on the menu bar. For example, when Excel is active, you see its menus, with Excel's own menu appearing at the left end of the menu bar.
2. Click the menu you want to open.
3. Click the command you want to give. Or, if the command is on a submenu, click or highlight the submenu item to display the submenu, then click the item.

NOTE: An ellipsis (…) at the end of a menu command's name usually indicates that the command displays a dialog box rather than taking an action. For example, the Close command on the File menu closes the active document, while the Save As… command displays the Save As dialog box. (The Save command also displays the Save As dialog box—but only if you've never saved this workbook before.) But with the move to the Ribbon, some menu commands with ellipses display the tab of the Ribbon that contains the command you need to complete the action.

Giving a command via the menu bar could hardly be easier. But the menu bar also has two secrets. You can:

- *Close all open workbooks at once*. Hold down Shift and click the File menu, then click the Close All command that replaces the regular Close command. If any of the workbooks contains unsaved changes, Excel prompts you to save them, just like when you close a single workbook.
- *Customize the menus and menu bar.* You can customize the menus and menu bar to put the commands you need where you find them most useful. See the section "Customizing the Menus and the Menu Bar" in Chapter 2 for details.