



CD-ROM Included!

- All examples and workbooks discussed in the book
- Searchable electronic version of this book, in PDF format

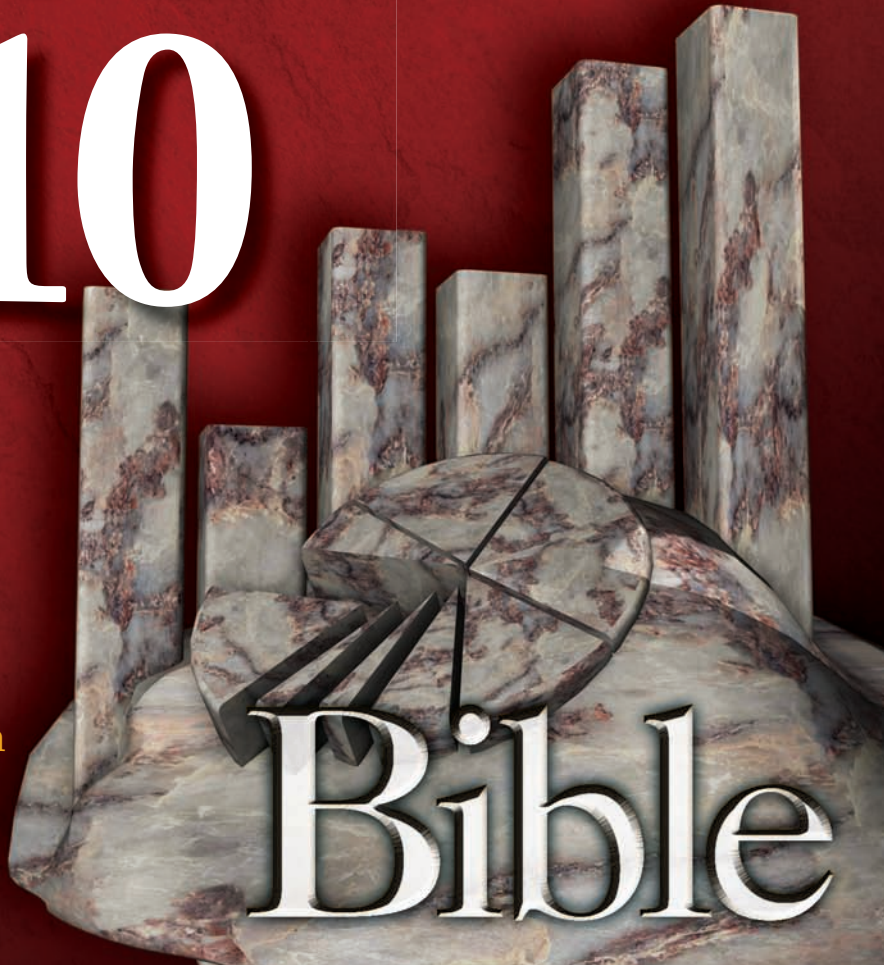
John Walkenbach

Microsoft® Excel® 2010

Master Excel formulas
for useful worksheets

Create effective charts
suitable for the boardroom

Analyze and present
data with pivot tables



The book you need to succeed!

Excel[®] 2010 Bible

Excel[®] 2010 Bible

John Walkenbach



WILEY

Wiley Publishing, Inc.

Excel® 2010 Bible

Published by
Wiley Publishing, Inc.
10475 Crosspoint Boulevard
Indianapolis, IN 46256
www.wiley.com

Copyright © 2010 by Wiley Publishing, Inc., Indianapolis, Indiana

Library of Congress Control Number: 2010922573

Published simultaneously in Canada

ISBN: 978-0-470-47487-7

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: THE PUBLISHER AND THE AUTHOR MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS WORK AND SPECIFICALLY DISCLAIM ALL WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTY MAY BE CREATED OR EXTENDED BY SALES OR PROMOTIONAL MATERIALS. THE ADVICE AND STRATEGIES CONTAINED HEREIN MAY NOT BE SUITABLE FOR EVERY SITUATION. THIS WORK IS SOLD WITH THE UNDERSTANDING THAT THE PUBLISHER IS NOT ENGAGED IN RENDERING LEGAL, ACCOUNTING, OR OTHER PROFESSIONAL SERVICES. IF PROFESSIONAL ASSISTANCE IS REQUIRED, THE SERVICES OF A COMPETENT PROFESSIONAL PERSON SHOULD BE SOUGHT. NEITHER THE PUBLISHER NOR THE AUTHOR SHALL BE LIABLE FOR DAMAGES ARISING HEREFROM. THE FACT THAT AN ORGANIZATION OR WEBSITE IS REFERRED TO IN THIS WORK AS A CITATION AND/OR A POTENTIAL SOURCE OF FURTHER INFORMATION DOES NOT MEAN THAT THE AUTHOR OR THE PUBLISHER ENDORSES THE INFORMATION THE ORGANIZATION OR WEB SITE MAY PROVIDE OR RECOMMENDATIONS IT MAY MAKE. FURTHER, READERS SHOULD BE AWARE THAT INTERNET WEB SITES LISTED IN THIS WORK MAY HAVE CHANGED OR DISAPPEARED BETWEEN WHEN THIS WORK WAS WRITTEN AND WHEN IT IS READ.

For general information on our other products and services or to obtain technical support, please contact our Customer Care Department within the U.S. at (877) 762-2974, outside the U.S. at (317) 572-3993 or fax (317) 572-4002.

Trademarks: Wiley, the Wiley logo, and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc. and/or its affiliates, in the United States and other countries, and may not be used without written permission. Excel is a registered trademark of Microsoft Corporation in the United States and/or other countries. All other trademarks are the property of their respective owners. Wiley Publishing, Inc. is not associated with any product or vendor mentioned in this book.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

*This book is dedicated to Wormpicker, a gentleman and a scholar
who one day will be a fine old-time fiddler.*

About the Author

John Walkenbach is a bestselling Excel author who has published more than 50 spreadsheet books. He lives amid the saguaros, javelinas, rattlesnakes, bobcats, and gila monsters in Southern Arizona — but the critters are mostly scared away by his clawhammer banjo playing. For more information, Google him.

About the Technical Editor

Niek Otten started in data processing in 1967 in an insurance company. He ran into VisiCalc in 1980 and has been addicted to spreadsheets ever since. His first acquaintance with Excel (version 1!) was in 1985 on a Macintosh. Since 2005, Niek has been self-employed. He answers questions about Excel in newsgroups and forums, reviews and edits Excel books, writes articles, and develops Excel-related software, such as a high-performance actuarial add-in. Niek has been a Microsoft Most Valuable Professional (MVP) for Excel since 2001.

Credits

Project Editor

Rebecca Senninger

Acquisitions Editor

Katie Mohr

Technical Editor

Niek Otten

Senior Copy Editor

Teresa Artman

Editorial Manager

Leah Cameron

Editorial Director

Mary C. Corder

Vice President and Executive**Group Publisher**

Richard Swadley

Vice President and Publisher

Andy Cummings

Project Coordinator

Katie Crocker

Media Development Project Manager

Laura Moss

Media Development Assistant**Project Manager**

Jenny Swisher

Media Development Associate Producers

Josh Frank

Shawn Patrick

Doug Kuhn

Marilyn Hummel

Proofreading and Indexing

Linda Seifert

Broccoli Information Management

Contents

Acknowledgments	xxxvii
------------------------------	---------------

Introduction	xxxviii
---------------------------	----------------

Part I: Getting Started with Excel	1
---	----------

Chapter 1: Introducing Excel	3
---	----------

What Is Excel Good For?	3
What's New in Excel 2010?.....	4
Understanding Workbooks and Worksheets.....	5
Moving around a Worksheet.....	8
Navigating with your keyboard	9
Navigating with your mouse.....	10
Introducing the Ribbon.....	11
Ribbon tabs	11
Contextual tabs	13
Types of commands on the Ribbon	13
Accessing the Ribbon by using your keyboard.....	15
Using Shortcut Menus.....	16
Customizing Your Quick Access Toolbar	17
Working with Dialog Boxes	19
Navigating dialog boxes	19
Using tabbed dialog boxes.....	20
Using the Task Pane.....	22
Creating Your First Excel Worksheet	22
Getting started on your worksheet	22
Filling in the month names	23
Entering the sales data.....	23
Formatting the numbers.....	24
Making your worksheet look a bit fancier.....	25
Summing the values	25
Creating a chart.....	26
Printing your worksheet.....	27
Saving your workbook	28

Contents

Chapter 2: Entering and Editing Worksheet Data 29

Exploring the Types of Data You Can Use	29
About numeric values	30
About text entries	30
About formulas	30
Entering Text and Values into Your Worksheets	32
Entering Dates and Times into Your Worksheets	33
Entering date values	33
Entering time values	34
Modifying Cell Contents	34
Erasing the contents of a cell	35
Replacing the contents of a cell	35
Editing the contents of a cell	35
Learning some handy data-entry techniques	37
Automatically moving the cell pointer after entering data	37
Using navigation keys instead of pressing Enter	37
Selecting a range of input cells before entering data	38
Using Ctrl+Enter to place information into multiple cells simultaneously	38
Entering decimal points automatically	38
Using AutoFill to enter a series of values	38
Using AutoComplete to automate data entry	39
Forcing text to appear on a new line within a cell	40
Using AutoCorrect for shorthand data entry	40
Entering numbers with fractions	40
Simplifying data entry by using a form	40
Entering the current date or time into a cell	42
Applying Number Formatting	42
Using automatic number formatting	43
Formatting numbers by using the Ribbon	44
Using shortcut keys to format numbers	45
Formatting numbers using the Format Cells dialog box	45
Adding your own custom number formats	47

Chapter 3: Essential Worksheet Operations 49

Learning the Fundamentals of Excel Worksheets	49
Working with Excel windows	49
Moving and resizing windows	51
Switching among windows	52
Closing windows	52
Activating a worksheet	53
Adding a new worksheet to your workbook	54
Deleting a worksheet you no longer need	54
Changing the name of a worksheet	55
Changing a sheet tab color	56

Rearranging your worksheets	56
Hiding and unhiding a worksheet	57
Controlling the Worksheet View	58
Zooming in or out for a better view	59
Viewing a worksheet in multiple windows	60
Comparing sheets side by side	61
Splitting the worksheet window into panes	62
Keeping the titles in view by freezing panes	62
Monitoring cells with a Watch Window	64
Working with Rows and Columns	65
Inserting rows and columns	65
Deleting rows and columns	66
Hiding rows and columns	66
Changing column widths and row heights	67
Changing column widths	67
Changing row heights	68
Chapter 4: Working with Cells and Ranges	69
Understanding Cells and Ranges	69
Selecting ranges	70
Selecting complete rows and columns	71
Selecting noncontiguous ranges	71
Selecting multisheet ranges	72
Selecting special types of cells	74
Selecting cells by searching	76
Copying or Moving Ranges	78
Copying by using Ribbon commands	79
Copying by using shortcut menu commands	80
Copying by using shortcut keys	81
Copying or moving by using drag-and-drop	81
Copying to adjacent cells	82
Copying a range to other sheets	83
Using the Office Clipboard to paste	84
Pasting in special ways	85
Using the Paste Special Dialog box	87
Performing mathematical operations without formulas	88
Skipping blanks when pasting	89
Transposing a range	89
Using Names to Work with Ranges	89
Creating range names in your workbooks	90
Using the New Name dialog box	90
Using the Name box	91
Using the Create Names from Selection dialog box	91
Managing names	92

Contents

Adding Comments to Cells	94
Formatting comments	95
Changing a comment's shape	96
Reading comments	96
Printing comments	96
Hiding and showing comments	97
Selecting comments	97
Editing comments	98
Deleting comments	98
Chapter 5: Introducing Tables	99
What Is a Table?	99
Creating a Table	102
Changing the Look of a Table	103
Working with Tables	105
Navigating in a table	105
Selecting parts of a table	105
Adding new rows or columns	105
Deleting rows or columns	106
Moving a table	106
Setting table options	107
Working with the Total Row	107
Removing duplicate rows from a table	109
Sorting and filtering a table	110
Sorting a table	110
Filtering a table	112
Converting a table back to a range	113
Chapter 6: Worksheet Formatting	115
Getting to Know the Formatting Tools	115
Using the formatting tools of the Home Tab	116
Using the Mini toolbar	116
Using the Format Cells dialog box	118
Using Different Fonts to Format Your Worksheet	119
Changing Text Alignment	122
Choosing horizontal alignment options	122
Choosing vertical alignment options	124
Wrapping or shrinking text to fit the cell	124
Merging worksheet cells to create additional text space	124
Displaying text at an angle	125
Controlling the text direction	126
Using Colors and Shading	127
Adding Borders and Lines	128
Adding a Background Image to a Worksheet	130

Using Named Styles for Easier Formatting	131
Applying styles.....	132
Modifying an existing style.....	133
Creating new styles	134
Merging styles from other workbooks	134
Controlling styles with templates	135
Understanding Document Themes.....	135
Applying a theme.....	137
Customizing a theme.....	138
Chapter 7: Understanding Excel Files	141
Creating a New Workbook	141
Opening an Existing Workbook.....	143
Using the Favorite Links.....	146
Filtering filenames.....	146
Choosing your file display preferences	147
Saving a Workbook.....	147
Using AutoRecover	149
Recovering versions of the current workbook.....	149
Recovering unsaved work.....	149
Specifying a Password	150
Organizing Your Files	151
Other Workbook Info Options	153
Security Warning section	153
Compatibility Mode section	154
Permissions section	154
Prepare for Sharing section.....	155
Versions section	156
Closing Workbooks	156
Safeguarding Your Work.....	157
Excel File Compatibility.....	157
Checking compatibility	157
Recognizing the Excel 2010 file formats.....	159
Saving a file for use with an older version of Excel	159
Chapter 8: Using and Creating Templates	161
Exploring Excel Templates.....	161
Viewing templates	161
Creating a workbook from a template	162
Modifying a template.....	164
Understanding Custom Excel Templates.....	165
Working with the default templates	166
Using the workbook template to change workbook defaults.....	166
Using the worksheet template to change worksheet defaults.....	167

Contents

Editing your templates	168
Resetting the default workbook and worksheet settings	168
Creating custom templates	168
Saving your custom templates	170
Ideas for creating templates	170
Chapter 9: Printing Your Work	171
Printing with One Click	171
Changing Your Page View	172
Normal view	173
Page Layout view	174
Page Break Preview	175
Adjusting Common Page Setup Settings	177
Choosing your printer	178
Specifying what you want to print	178
Changing page orientation	179
Specifying paper size	179
Printing multiple copies of a report	180
Adjusting page margins	180
Understanding page breaks	181
Inserting a page break	181
Removing manual page breaks	182
Printing row and column titles	182
Scaling printed output	183
Printing cell gridlines	183
Printing row and column headers	185
Using a background image	185
Adding a Header or Footer to Your Reports	185
Selecting a predefined header or footer	186
Understanding header and footer element codes	186
Other header and footer options	187
Copying Page Setup Settings across Sheets	188
Preventing Certain Cells from Being Printed	188
Preventing Objects from Being Printed	189
Creating Custom Views of Your Worksheet	190
Part II: Working with Formulas and Functions	193
Chapter 10: Introducing Formulas and Functions	195
Understanding Formula Basics	195
Using operators in formulas	196
Understanding operator precedence in formulas	197

Using functions in your formulas	199
Examples of formulas that use functions.....	200
Function arguments	201
More about functions	202
Entering Formulas into Your Worksheets	202
Entering formulas manually	203
Entering formulas by pointing.....	203
Pasting range names into formulas	205
Inserting functions into formulas.....	206
Function entry tips.....	208
Editing Formulas	209
Using Cell References in Formulas	209
Using relative, absolute, and mixed references	210
Changing the types of your references.....	212
Referencing cells outside the worksheet	212
Referencing cells in other worksheets	213
Referencing cells in other workbooks	213
Using Formulas in Tables.....	214
Summarizing data in a table	214
Using formulas within a table.....	216
Referencing data in a table.....	217
Correcting Common Formula Errors	218
Handling circular references.....	219
Specifying when formulas are calculated	220
Using Advanced Naming Techniques.....	222
Using names for constants.....	222
Using names for formulas.....	223
Using range intersections	224
Applying names to existing references.....	226
Tips for Working with Formulas.....	227
Don't hard-code values.....	227
Using the Formula bar as a calculator.....	227
Making an exact copy of a formula.....	227
Converting formulas to values.....	228
Chapter 11: Creating Formulas That Manipulate Text	229
A Few Words about Text	229
Text Functions.....	230
Working with character codes.....	231
The CODE function.....	232
The CHAR function.....	232
Determining whether two strings are identical	233
Joining two or more cells.....	234

Contents

Displaying formatted values as text	235
Displaying formatted currency values as text	236
Repeating a character or string	236
Creating a text histogram	237
Padding a number	238
Removing excess spaces and nonprinting characters	239
Counting characters in a string	239
Changing the case of text	239
Extracting characters from a string	240
Replacing text with other text	241
Finding and searching within a string	242
Searching and replacing within a string	242
Advanced Text Formulas	243
Counting specific characters in a cell	243
Counting the occurrences of a substring in a cell	243
Extracting a filename from a path specification	244
Extracting the first word of a string	244
Extracting the last word of a string	244
Extracting all but the first word of a string	245
Extracting first names, middle names, and last names	245
Removing titles from names	247
Creating an ordinal number	247
Counting the number of words in a cell	248

Chapter 12: Working with Dates and Times 249

How Excel Handles Dates and Times	249
Understanding date serial numbers	249
Entering dates	250
Understanding time serial numbers	252
Entering times	253
Formatting dates and times	254
Problems with dates	255
Excel's leap year bug	255
Pre-1900 dates	256
Inconsistent date entries	257
Date-Related Worksheet Functions	258
Displaying the current date	259
Displaying any date	259
Generating a series of dates	260
Converting a nondate string to a date	261
Calculating the number of days between two dates	262
Calculating the number of work days between two dates	263
Offsetting a date using only work days	264
Calculating the number of years between two dates	265

Calculating a person's age.....	265
Determining the day of the year	266
Determining the day of the week.....	267
Determining the date of the most recent Sunday	267
Determining the first day of the week after a date.....	267
Determining the <i>n</i> th occurrence of a day of the week in a month.....	268
Calculating dates of holidays.....	268
New Year's Day.....	269
Martin Luther King, Jr. Day	269
Presidents' Day	269
Easter	270
Memorial Day.....	270
Independence Day.....	270
Labor Day.....	270
Columbus Day	270
Veterans Day	270
Thanksgiving Day.....	271
Christmas Day.....	271
Determining the last day of a month	271
Determining whether a year is a leap year	271
Determining a date's quarter	272
Time-Related Functions	272
Displaying the current time.....	272
Displaying any time.....	273
Calculating the difference between two times.....	274
Summing times that exceed 24 hours.....	275
Converting from military time.....	277
Converting decimal hours, minutes, or seconds to a time.....	277
Adding hours, minutes, or seconds to a time.....	278
Rounding time values.....	279
Working with non-time-of-day values	279

Chapter 13: Creating Formulas That Count and Sum 281

Counting and Summing Worksheet Cells	281
Basic Counting Formulas	283
Counting the total number of cells	283
Counting blank cells	284
Counting nonblank cells	285
Counting numeric cells	285
Counting text cells	285
Counting nontext cells	285
Counting logical values	286
Counting error values in a range	286

Contents

Advanced Counting Formulas.....	286
Counting cells by using the COUNTIF function.....	287
Counting cells based on multiple criteria	288
Using And criteria	289
Using Or criteria.....	290
Combining And and Or criteria.....	290
Counting the most frequently occurring entry.....	291
Counting the occurrences of specific text	292
Entire cell contents	292
Partial cell contents	292
Total occurrences in a range	293
Counting the number of unique values	293
Creating a frequency distribution	294
The FREQUENCY function	294
Using formulas to create a frequency distribution.....	296
Using the Analysis ToolPak to create a frequency distribution	297
Using a pivot table to create a frequency distribution	298
Summing Formulas.....	299
Summing all cells in a range.....	299
Computing a cumulative sum	300
Summing the “top <i>n</i> ” values	302
Conditional Sums Using a Single Criterion	303
Summing only negative values	304
Summing values based on a different range.....	304
Summing values based on a text comparison	304
Summing values based on a date comparison.....	305
Conditional Sums Using Multiple Criteria.....	305
Using And criteria	305
Using Or criteria	306
Using And and Or criteria	307

Chapter 14: Creating Formulas That Look Up Values 309

Introducing Lookup Formulas	309
Functions Relevant to Lookups.....	310
Basic Lookup Formulas.....	312
The VLOOKUP function	312
The HLOOKUP function.....	313
The LOOKUP function.....	314
Combining the MATCH and INDEX functions.....	316
Specialized Lookup Formulas	318
Looking up an exact value.....	318
Looking up a value to the left.....	319
Performing a case-sensitive lookup.....	320
Looking up a value from multiple lookup tables	321
Determining letter grades for test scores.....	322

Calculating a grade-point average.....	322
Performing a two-way lookup	323
Performing a two-column lookup.....	325
Determining the cell address of a value within a range	326
Looking up a value by using the closest match	327
Chapter 15: Creating Formulas for Financial Applications	329
The Time Value of Money	329
Loan Calculations	330
Worksheet functions for calculating loan information	331
PMT	331
PPMT	331
IPMT	332
RATE.....	332
NPER	333
PV	333
A loan calculation example.....	333
Credit card payments	334
Creating a loan amortization schedule.....	337
Summarizing loan options by using a data table.....	338
Creating a one-way data table.....	338
Creating a two-way data table.....	340
Calculating a loan with irregular payments.....	341
Investment Calculations.....	343
Future value of a single deposit	343
Calculating simple interest	343
Calculating compound interest.....	344
Calculating interest with continuous compounding.....	346
Future value of a series of deposits	348
Depreciation Calculations	350
Chapter 16: Introducing Array Formulas.	355
Understanding Array Formulas	355
A multicell array formula.....	356
A single-cell array formula.....	357
Creating an array constant.....	358
Array constant elements	360
Understanding the Dimensions of an Array.....	360
One-dimensional horizontal arrays.....	360
One-dimensional vertical arrays	361
Two-dimensional arrays	361
Naming Array Constants	362
Working with Array Formulas	364
Entering an array formula.....	364
Selecting an array formula range	364

Contents

Editing an array formula.....	364
Expanding or contracting a multicell array formula.....	365
Using Multicell Array Formulas	366
Creating an array from values in a range	366
Creating an array constant from values in a range	367
Performing operations on an array	368
Using functions with an array.....	369
Transposing an array.....	369
Generating an array of consecutive integers.....	370
Using Single-Cell Array Formulas	371
Counting characters in a range	371
Summing the three smallest values in a range.....	372
Counting text cells in a range	373
Eliminating intermediate formulas	374
Using an array in lieu of a range reference.....	376

Chapter 17: Performing Magic with Array Formulas 379

Working with Single-Cell Array Formulas.....	379
Summing a range that contains errors	379
Counting the number of error values in a range	380
Summing the <i>n</i> largest values in a range.....	381
Computing an average that excludes zeros	381
Determining whether a particular value appears in a range	383
Counting the number of differences in two ranges	384
Returning the location of the maximum value in a range.....	384
Finding the row of a value's <i>n</i> th occurrence in a range	385
Returning the longest text in a range	385
Determining whether a range contains valid values	386
Summing the digits of an integer.....	386
Summing rounded values.....	388
Summing every <i>n</i> th value in a range.....	388
Removing non-numeric characters from a string.....	390
Determining the closest value in a range	391
Returning the last value in a column	391
Returning the last value in a row	392
Ranking data with an array formula	392
Working with Multicell Array Formulas.....	394
Returning only positive values from a range	394
Returning nonblank cells from a range	394
Reversing the order of cells in a range	395
Sorting a range of values dynamically.....	396
Returning a list of unique items in a range	396
Displaying a calendar in a range	398

Part III: Creating Charts and Graphics 401

Chapter 18: Getting Started Making Charts 403

What Is a Chart?	403
Understanding How Excel Handles Charts.....	404
Embedded charts	405
Chart sheets	406
Creating a Chart.....	408
Hands On: Creating and Customizing a Chart	408
Selecting the data	408
Choosing a chart type.....	409
Experimenting with different layouts	409
Trying another view of the data.....	411
Trying other chart types	412
Trying other chart styles.....	412
Working with Charts	413
Resizing a chart	414
Moving a chart	414
Copying a chart.....	414
Deleting a chart.....	414
Adding chart elements.....	415
Moving and deleting chart elements.....	415
Formatting chart elements.....	415
Printing charts.....	416
Understanding Chart Types	417
Choosing a chart type.....	417
Column.....	419
Bar	422
Line.....	423
Pie.....	424
XY (scatter)	426
Area	427
Doughnut.....	429
Radar	430
Surface	432
Bubble.....	433
Stock.....	433
Learning More	436

Chapter 19: Learning Advanced Charting 437

Selecting Chart Elements	437
Selecting with the mouse.....	438
Selecting with the keyboard	439
Selecting with the Chart Element control	439

Contents

User Interface Choices for Modifying Chart Elements	441
Using the Format dialog box	441
Using the Ribbon	442
Using the Mini toolbar	442
Modifying the Chart Area.....	443
Modifying the Plot Area	444
Working with Chart Titles	445
Working with a Legend.....	446
Working with Gridlines	448
Modifying the Axes	448
Value axis.....	448
Category axis.....	452
Working with Data Series	455
Deleting a data series.....	456
Adding a new data series to a chart	456
Changing data used by a series.....	457
Changing the data range by dragging the range outline	457
Using the Edit Series dialog box	458
Editing the Series formula	459
Displaying data labels in a chart	460
Handling missing data.....	461
Adding error bars.....	461
Adding a trendline	463
Modifying 3-D charts	464
Creating combination charts	465
Displaying a data table	468
Creating Chart Templates	469
Learning Some Chart-Making Tricks.....	470
Creating picture charts.....	470
Creating a thermometer chart.....	472
Creating a gauge chart.....	473
Displaying conditional colors in a column chart.....	474
Creating a comparative histogram	475
Creating a Gantt chart	476
Plotting mathematical functions with one variable	477
Plotting mathematical functions with two variables.....	479

Chapter 20: Visualizing Data Using Conditional Formatting 481

About Conditional Formatting.....	481
Specifying Conditional Formatting.....	483
Formatting types you can apply	483
Making your own rules	484
Conditional Formats That Use Graphics	485
Using data bars.....	485
A simple data bar.....	486
Using data bars in lieu of a chart	487

Using color scales.....	487
A color scale example	488
An extreme color scale example.....	489
Using icon sets	490
An icon set example	491
Another icon set example	492
Creating Formula-Based Rules	494
Understanding relative and absolute references	495
Conditional formatting formula examples	496
Identifying weekend days.....	496
Displaying alternate-row shading.....	497
Creating checkerboard shading	497
Shading groups of rows	497
Displaying a total only when all values are entered.....	498
Working with Conditional Formats	499
Managing rules.....	499
Copying cells that contain conditional formatting	500
Deleting conditional formatting.....	500
Locating cells that contain conditional formatting	501
Chapter 21: Creating Sparkline Graphics	503
Sparkline Types	504
Creating Sparklines.....	505
Customizing Sparklines	507
Sizing Sparkline cells.....	507
Handling hidden or missing data	508
Changing the Sparkline type	508
Changing Sparkline colors and line width	508
Highlighting certain data points	509
Adjusting Sparkline axis scaling	509
Faking a reference line	510
Specifying a Date Axis.....	512
Auto-Updating Sparklines.....	513
Displaying a Sparkline for a Dynamic Range	514
Chapter 22: Enhancing Your Work with Pictures and Drawings	517
Using Shapes	517
Inserting a Shape.....	518
Adding text to a Shape	520
Formatting Shapes	520
Grouping objects.....	522
Aligning and spacing objects.....	523
Reshaping Shapes.....	523
Printing objects	524

Using SmartArt	525
Inserting SmartArt.....	525
Customizing SmartArt.....	527
Changing the layout.....	528
Changing the style.....	528
Learning more about SmartArt	529
Using WordArt	530
Working with Other Graphic Types.....	531
About graphics files.....	531
Using the Clip Art task pane.....	531
Inserting graphics files.....	532
Inserting screenshots.....	533
Displaying a worksheet background image.....	535
Using the Equation Editor.....	535

Part IV: Using Advanced Excel Features **539**

Chapter 23: Customizing the Excel User Interface 541

Customizing the Quick Access Toolbar.....	541
About the Quick Access toolbar	542
Adding new commands to the Quick Access toolbar	543
Other Quick Access toolbar actions.....	545
Customizing the Ribbon	546
Why customize the Ribbon?.....	546
What can be customized	546
How to customize the Ribbon	547

Chapter 24: Using Custom Number Formats 551

About Number Formatting	551
Automatic number formatting.....	552
Formatting numbers by using the Ribbon	552
Using shortcut keys to format numbers.....	553
Using the Format Cells dialog box to format numbers.....	554
Creating a Custom Number Format	555
Parts of a number format string.....	557
Custom number format codes	558
Custom Number Format Examples.....	560
Scaling values.....	560
Displaying values in thousands.....	560
Displaying values in hundreds.....	561
Displaying values in millions	562
Adding zeros to a value	563
Displaying leading zeros.....	564
Displaying fractions.....	564

Displaying a negative sign on the right	565
Formatting dates and times	566
Displaying text with numbers	566
Suppressing certain types of entries	567
Filling a cell with a repeating character	568
Chapter 25: Using Data Validation	569
About Data Validation	569
Specifying Validation Criteria	570
Types of Validation Criteria You Can Apply	571
Creating a Drop-Down List	573
Using Formulas for Data Validation Rules	574
Understanding Cell References	574
Data Validation Formula Examples	575
Accepting text only	576
Accepting a larger value than the previous cell	576
Accepting nonduplicate entries only	576
Accepting text that begins with a specific character	577
Accepting dates by the day of the week	577
Accepting only values that don't exceed a total	578
Creating a dependent list	578
Chapter 26: Creating and Using Worksheet Outlines	581
Introducing Worksheet Outlines	581
Creating an Outline	584
Preparing the data	584
Creating an outline automatically	585
Creating an outline manually	586
Working with Outlines	587
Displaying levels	587
Adding data to an outline	588
Removing an outline	588
Hiding the outline symbols	588
Chapter 27: Linking and Consolidating Worksheets	589
Linking Workbooks	589
Creating External Reference Formulas	590
Understanding link formula syntax	590
Creating a link formula by pointing	591
Pasting links	591
Working with External Reference Formulas	592
Creating links to unsaved workbooks	592
Opening a workbook with external reference formulas	592
Changing the startup prompt	594
Updating links	594

Contents

Changing the link source	595
Severing links.....	595
Avoiding Potential Problems with External Reference Formulas	595
Renaming or moving a source workbook	596
Using the Save As command	596
Modifying a source workbook.....	596
Intermediary links.....	597
Consolidating Worksheets	597
Consolidating worksheets by using formulas.....	598
Consolidating worksheets by using Paste Special.....	599
Consolidating worksheets by using the Consolidate command.....	600
A workbook consolidation example	601
Refreshing a consolidation.....	604
More about consolidation.....	604
Chapter 28: Excel and the Internet	605
Understanding How Excel Uses HTML	605
Understanding the Different Web Formats.....	606
Creating an HTML file.....	607
Creating a single file Web page.....	607
Opening an HTML File.....	609
Working with Hyperlinks	610
Inserting a hyperlink.....	610
Using hyperlinks.....	611
Using Web Queries.....	612
Other Internet-Related Features	614
Chapter 29: Sharing Data with Other Office Applications	615
Copying and Pasting	615
Copying from Excel to Word	617
Pasting static information	617
Pasting a link.....	620
Embedding Objects in a Worksheet	622
Embedding Word documents	623
Embedding other types of documents	623
Embedding an Excel Workbook in a Word Document.....	624
Embedding a workbook in Word by copying.....	624
Embedding a saved workbook in Word	626
Creating a new Excel object in Word	626
Chapter 30: Using Excel in a Workgroup	627
Using Excel on a Network.....	627
Understanding File Reservations	628
Sharing Workbooks	629
Understanding shared workbooks.....	630
Designating a workbook as a shared workbook.....	631