

-series

on HAAG

T. PERRY

WELLS

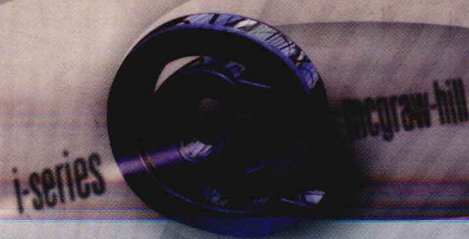
DUCTORY



MICROSOFT®

# Access

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**The I-Series**

# Microsoft® Access 2002

*Introductory*

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University of Denver

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University of San Diego

**Merrill Wells**

University of Denver



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The I-Series: Microsoft Access 2002, Introductory

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Publishing a book is a collaborative effort between authors, reviewers, technical editors, and the publisher. Working together on one team, all the people comprising the entire effort have one goal in mind—to produce the very best book possible for our consumers. One of the very important groups responsible for reading the manuscript, working the exercises, and assessing each chapter's content, accuracy, and flow is our reviewers. We wish to thank the many reviewers for their insightful suggestions and comments they gave us on this series of books.

A textbook must be error-free for success, so we also want to extend a special thank you to the experienced technical editors who pored over the steps and ensured that they all worked perfectly:

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## THE I-SERIES PAGE

By using the I-Series, students will be able to learn and master applications skills by being actively engaged—by *doing*. The “I” in I-Series demonstrates *Insightful* tasks that will not only *Inform* students, but also *Involve* them while learning the applications.

### How will The I-Series accomplish this for you?

Through relevant, real-world chapter opening cases.

Through tasks throughout each chapter that incorporate steps and tips for easy reference.

Through alternative methods and styles of learning to keep the student involved.

Through rich, end-of-chapter materials that support what the student has learned.

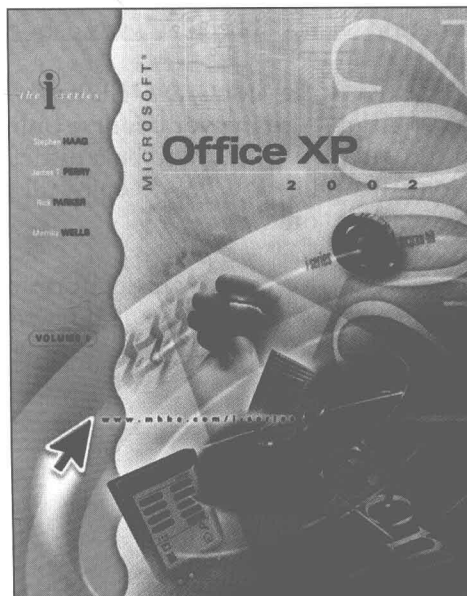
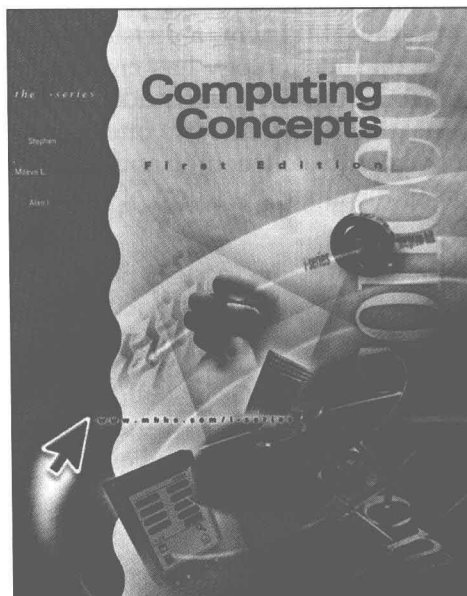
### I-Series titles include:

- Microsoft Office XP, Volume I
- Microsoft Office XP, Volume I Expanded
- Microsoft Office XP, Volume II
- Microsoft Word 2002 (Brief, Introductory, Complete Versions) 12 Chapters
- Microsoft Excel 2002 (Brief, Introductory, Complete Versions) 12 Chapters
- Microsoft Access 2002 (Brief, Introductory, Complete Versions) 12 Chapters
- Microsoft PowerPoint 2002 (Brief, Introductory Versions) 8 Chapters
- Microsoft Windows 2000 (Brief, Introductory, Complete Versions) 12 Chapters
- Microsoft Windows XP and Bonus Books to come!

To accompany the series:

**The I-Series Computing Concepts text (Introductory, Complete Versions)**

For additional resources, visit the I-Series Online Learning Center at [www.mhhe.com/i-series/](http://www.mhhe.com/i-series/)



## GOALS/PHILOSOPHY

The I-Series applications textbooks strongly emphasize that students learn and master applications skills by being actively engaged—by *doing*. We made the decision that teaching how to accomplish tasks is not enough for complete understanding and mastery. Students must understand the importance of each of the tasks that lead to a finished product at the end of each chapter.

### Approach

The I-Series chapters are subdivided into sessions that contain related groups of tasks with active, hands-on components. The session tasks containing numbered steps collectively result in a completed project at the end of each session. Prior to introducing numbered steps that show how to accomplish a particular task, we discuss why the steps are important. We discuss the role that the collective steps play in the overall plan for creating or modifying a document or object, answering students' often-heard questions, "Why are we doing these steps? Why are these steps important?" Without an explanation of why an activity is important and what it accomplishes, students can easily find themselves following the steps but not registering the big picture of what the steps accomplish and why they are executing them.

### I-Series Applications for 2002

The I-Series offers three levels of instruction. Each level builds upon knowledge from the previous level. With the exception of the running project that is the last exercise of every chapter, chapter cases and end-of-chapter exercises are independent from one chapter to the next, with the exception of Access. The three levels available are

**Brief** Covers the basics of the Microsoft application and contains Chapters 1 through 4. The Brief textbooks are typically 200 pages long.

**Introductory** Includes chapters in the Brief textbook plus Chapters 5 through 8. Introductory textbooks typically are 400 pages long and prepare students for the Microsoft Office User Specialist (MOUS) Core Exam.

**Complete** Includes the Introductory textbook plus Chapters 9 through 12. The four additional chapters cover advanced level content and are typically 600 pages long. Complete textbooks prepare students for the Microsoft Office User Specialist (MOUS) Expert Exam. The Microsoft Office User Specialist program is recognized around the world as the standard for demonstrating proficiency using Microsoft Office applications.

In addition, there are two compilation volumes available.

**Office I** Includes introductory chapters on Windows and Computing Concepts followed by Chapters 1 through 4 (Brief textbook) of Word, Excel, Access, and PowerPoint. In addition, material from the companion Computing Concepts book is integrated into the first few chapters to provide students an understanding of the relationship between Microsoft Office applications and computer information systems.

**Office II** Includes introductory chapters on Windows and Computing Concepts followed by Chapters 5 through 8 from each of the Introductory-level textbooks including Word, Excel, Access, and PowerPoint. In addition, material from the companion Computing Concepts book is integrated into the introductory chapters to provide students a deeper understanding of the relationship between Microsoft Office applications and computer information systems. An introduction to Visual Basic for Applications (VBA) completes the Office II textbook.

### Approved Microsoft Courseware

Use of the Microsoft Office User Specialist Approved Courseware logo on this product signifies that it has been independently reviewed and approved to comply with the following standards: Acceptable coverage of all content related to the Microsoft Office Exams entitled Microsoft Access 2002, Microsoft Excel 2002, Microsoft PowerPoint 2002, and Microsoft Word 2002, and sufficient performance-based exercises that relate closely to all required content, based on sampling of the textbooks. For further information on Microsoft's MOUS certification program, please visit Microsoft's Web site at [www.microsoft.com](http://www.microsoft.com).

## STEPHEN HAAG

**Stephen Haag** is a professor and Chair of Information Technology and Electronic Commerce and the Director of Technology in the University of Denver's Daniels College of Business. Stephen holds a B.B.A. and an M.B.A. from West Texas State University and a Ph.D. from the University of Texas at Arlington. Stephen has published numerous articles appearing in such journals as *Communications of the ACM*, *The International Journal of Systems Science*, *Applied Economics*, *Managerial and Decision Economics*, *Socio-Economic Planning Sciences*, and the *Australian Journal of Management*.

Stephen is also the author of 13 other books including *Interactions: Teaching English as a Second Language* (with his mother and father), *Case Studies in Information Technology*, *Information Technology: Tomorrow's Advantage Today* (with Peter Keen), and *Excelling in Finance*. Stephen is also the lead author of the accompanying *I-Series: Computing Concepts* text, released in both an Introductory and Complete version. Stephen lives with his wife, Pam, and their four sons, Indiana, Darian, Trevor, and Elvis, in Highlands Ranch, Colorado.

## JAMES PERRY

**James Perry** is a professor of Management Information Systems at the University of San Diego's School of Business. Jim is an active instructor who teaches both undergraduate and graduate courses. He holds a B.S. in mathematics from Purdue University and a Ph.D. in computer science from The Pennsylvania State University. He has published several journal and conference papers. He is the co-author of 56 textbooks and trade books such as *Using Access with Accounting Systems*, *Building Accounting Systems*, *Understanding Oracle*, *The Internet*, and *Electronic Commerce*. His books have been translated into Dutch, French, and Chinese. Jim worked as a computer security consultant to various private and governmental organizations including the Jet Propulsion Laboratory. He was a consultant on the Strategic Defense Initiative ("Star Wars") project and served as a member of the computer security oversight committee.

## RICK PARKER

**Rick Parker** received his bachelor's degree from Brigham Young University. He received his Ph.D. in animal physiology at Iowa State University. After completing his Ph.D., he and his wife, Marilyn, and their children moved to Edmonton, Alberta, Canada, where he completed a post-doctorate at the University of Alberta. He accepted a position as a research and teaching associate at the University of Wyoming, Laramie, Wyoming.

Rick developed a love for the power and creativity unleashed by computers and software. After arriving at the College of Southern Idaho, Twin Falls, in 1984, he guided the creation and development of numerous college software courses and software training programs for business and industry. He also led the conversion of an old office occupations technical program into a business computer applications program, which evolved into an information technology program. During the early adoption of computers and software by the college, Rick wrote in-house training manuals and taught computer/software courses.

Rick currently works as a professional-technical division director at the College of Southern Idaho. As director, he supervises faculty in agriculture, information technology and drafting, and electronics programs. He is the author of four other textbooks.

## MERRILL WELLS

The caption next to **Merrill Wells'** eighth grade yearbook picture noted that her career goal was to teach college and write books. She completed an MBA at Indiana University and began a career as a programmer. After several years of progressive positions in business and industry, she returned to academia, spending 10 years as a computer technology faculty member at Red Rocks Community College and then becoming an information technology professor at the University of Denver, Daniels College of Business. She completed her first published book in 1993 and began presenting at educational seminars in 1997. Other publications include *An Introduction to Computers*, *Introduction to Visual Basic*, and *Programming Logic and Design*.



Each textbook features the following:

**Did You Know** Each chapter has six or seven interesting facts—both about high tech and other topics.

**Sessions** Each chapter is divided into two or three sessions.

**Chapter Outline** Provides students with a quick map of the major headings in the chapter.

**Chapter and MOUS Objectives** At the beginning of each chapter is a list of 5 to 10 action-oriented objectives. Any chapter objectives that are also MOUS objectives indicate the MOUS objective number also.

**Chapter Opening Case** Each chapter begins with a case. Cases describe a mixture of fictitious and real people and companies and the needs of the people and companies. Throughout the chapter, the student gains the skills and knowledge to solve the problem stated in the case.

**Introduction** The chapter introduction establishes the overview of the chapter's activities in the context of the case problem.

**Another Way and Another Word** Another Way is a highlighted feature providing a bulleted list of steps to accomplish a task, or best practices—that is, a better or faster way to accomplish a task such as pasting a format onto an Excel cell. Another Word, another highlighted box, briefly explains more about a topic or highlights a potential pitfall.

**Step-by-Step Instructions** Numbered step-by-step instructions for all hands-on activities appear in a distinctive color. Keyboard characters and menu selections appear in a **special format** to emphasize what the user should press or type. Steps make clear to the student the exact sequence of keystrokes and mouse clicks needed to complete a task such as formatting a Word paragraph.

**Tips** Tips appear within a numbered sequence of steps and warn the student of possible missteps or provide alternatives to the step that precedes the tip.

**Task Reference and Task Reference Round-Up** Task References appear throughout the textbook. Set in a distinctive design, each Task Reference contains a bulleted list of steps showing a generic way to accomplish activities that are especially important or significant. A Task Reference Round-Up at the end of each chapter summarizes a chapter's Task References.

**MOUS Objectives Summary** A list of MOUS objectives covered in a chapter appears in the chapter objectives and the chapter summary.

**Making the Grade** Short answer questions appear at the end of each chapter's sessions. They test a student's grasp of each session's contents, and Making the Grade answers appear at the end of each book so students can check their answers.

**Rich End-of-Chapter Materials** End-of-chapter materials incorporating a three-level approach reinforce learning and help students take ownership of the chapter. Level One, review of terminology, contains a fun crossword puzzle that enforces review of a chapter's key terms. Level Two, review of concepts, contains fill-in-the blank questions, review questions, and a Jeopardy-style create-a-question exercise. Level Three is Hands-on Projects.

**Hands-on Projects** Extensive hands-on projects engage the student in a problem-solving exercise from start to finish. There are six clearly labeled categories that each contain one or two questions. Categories are Practice, Challenge!, On the Web, E-Business, Around the World, and a Running Project that carries throughout all the chapters.

We understand that, in today's teaching environment, offering a textbook alone is not sufficient to meet the needs of the many instructors who use our books. To teach effectively, instructors must have a full complement of supplemental resources to assist them in every facet of teaching, from preparing for class to conducting a lecture to assessing students' comprehension. The **I-Series** offers a complete supplements package and Web site that is briefly described below.

## INSTRUCTOR'S RESOURCE KIT

The Instructor's Resource Kit is a CD-ROM containing the Instructor's Manual in both MS Word and .pdf formats, PowerPoint Slides with Presentation Software, Brownstone test-generating software, and accompanying test item files in both MS Word and .pdf formats for each chapter. The CD also contains figure files from the text, student data files, and solutions files. The features of each of the three main components of the Instructor's Resource Kit are highlighted below.

### Instructor's Manual Featuring:

- Chapter learning objectives per chapter
- Chapter outline with teaching tips
- Annotated Solutions Diagram to provide Troubleshooting Tips, Tricks, and Traps
- Lecture Notes, illustrating key concepts and ideas
- Annotated Syllabus, depicting a time table and schedule for covering chapter content
- Additional end-of-chapter projects
- Answers to all Making the Grade and end-of-chapter questions

### PowerPoint Presentation

The PowerPoint presentation is designed to provide instructors with comprehensive lecture and teaching resources that will include

- Chapter learning objectives followed by source content that illustrates key terms and key facts per chapter

- FAQ (frequently asked questions) to show key concepts throughout the chapter; also, lecture notes, to illustrate these key concepts and ideas
- End-of-chapter exercises and activities per chapter, as taken from the end-of-chapter materials in the text
- Speaker's Notes, to be incorporated throughout the slides per chapter
- Figures/screen shots, to be incorporated throughout the slides per chapter

PowerPoint includes presentation software for instructors to design their own presentation for their course.

### Test Bank

The I-Series Test Bank, using Diploma Network Testing Software by Brownstone, contains over 3,000 questions (both objective and interactive) categorized by topic, page reference to the text, and difficulty level of learning. Each question is assigned a learning category:

- Level 1: Key Terms and Facts
- Level 2: Key Concepts
- Level 3: Application and Problem-Solving

The types of questions consist of 40 percent Identifying/Interactive Lab Questions, 20 percent Multiple Choice, 20 percent True/False, and 20 percent Fill-in/Short Answer Questions.

## ONLINE LEARNING CENTER/WEB SITE

The Online Learning Center that accompanies the I-Series is accessible through our Information Technology Supersite at <http://www.mhhe.com/catalogs/irwin/it/>. This site provides additional review and learning tools developed using the same three-level approach found in the text and supplements. To locate the I-Series OLC/Web site directly, go to [www.mhhe.com/i-series](http://www.mhhe.com/i-series). The site is divided into three key areas:

- **Information Center** Contains core information about the text, the authors, and a guide to our additional features and benefits of the series, including the supplements.

- **Instructor Center** Offers instructional materials, downloads, additional activities and answers to additional projects, answers to chapter troubleshooting exercises, answers to chapter preparation/post exercises posed to students, relevant links for professors, and more.
- **Student Center** Contains chapter objectives and outlines, self-quizzes, chapter troubleshooting exercises, chapter preparation/post exercises, additional projects, simulations, student data files and solutions files, Web links, and more.

## RESOURCES FOR STUDENTS

**Interactive Companion CD** This student CD-ROM can be packaged with this text. It is designed for use in class, in the lab, or at home by students and professors and combines video, interactive exercises, and animation to cover the most difficult and popular topics in Computing Concepts. By combining video, interactive exercises, animation, additional content, and actual “lab” tutorials, we expand the reach and scope of the textbook.

**SimNet XPert** SimNet XPert is a simulated assessment and learning tool. It allows students to study MS Office XP skills and computer concepts, and professors to test and evaluate students’ proficiency within MS Office XP applications and concepts. Students can practice and study their skills at home or in the school lab using SimNet XPert, which does not require the purchase of Office XP software. SimNet XPert will contain new features and enhancements for Office XP, including:

**NEW! Live Assessments! SimNet XPert** now includes live-in-the-application assessments! One for each skill set for Core MOUS objectives in Word 2002, Excel 2002, Access 2002, and PowerPoint 2002 (total of 29 Live-in-the-Application Assessments). Multiple tasks are required to complete each live assessment (about 100 tasks covered).

**NEW! Computer Concepts Coverage! SimNet XPert** now includes coverage of computer concepts in both the Learning and the Assessment sides.

**NEW! Practice or Pretest Questions!** SimNet XPert has a separate pool of 600 questions for practice tests or pretests.

**NEW! Comprehensive Exercises! SimNet XPert** offers comprehensive exercises for each application. These exercises require the student to use multiple skills to solve one exercise in the simulated environment.

**ENHANCED! More Assessment Questions!** SimNet XPert includes over 1,400 assessment questions.

**ENHANCED! Simulated Interface!** The simulated environment in SimNet XPert has been substantially deepened to more realistically simulate the real applications. Now students are not graded incorrect just because they chose the wrong sub-menu or dialog box. The student is not graded until he or she does something that immediately invokes an action.

## DIGITAL SOLUTIONS FOR INSTRUCTORS AND STUDENTS

**PageOut** PageOut is our Course Web Site Development Center that offers a syllabus page, URL, McGraw-Hill Online Learning Center content, online exercises and quizzes, gradebook, discussion board, and an area for student Web pages. For more information, visit the PageOut Web site at [www.pageout.net](http://www.pageout.net).

**Online Courses Available** OLCs are your perfect solutions for Internet-based content. Simply put, these Centers are “digital cartridges” that contain a book’s pedagogy and supplements. As students read the book, they can go online and take self-grading quizzes or work through interactive exercises.

Online Learning Centers can be delivered through any of these platforms:

McGraw-Hill Learning Architecture  
(TopClass)

Blackboard.com

College.com (formerly Real Education)

WebCT (a product of Universal Learning Technology)

**Did You Know?**

A unique presentation of text and graphics introduce interesting and little-known facts.

did you  
**know?**

*the Penny is the only coin currently minted in the United States with a profile that faces to the right. All other U.S. coins feature profiles that face to the left.*

*the world's largest wind generator is on the island of Oahu, Hawaii. The windmill has two blades 400 feet long on the top of a tower, twenty stories high.*

*the only house in England that the Queen may not enter is the House of Commons, because she is not a commoner. She is also the only person in England who does not need a license plate on her vehicle.*

*former U.S. Vice President Al Gore and Oscar-winning actor Tommy Lee Jones were roommates at Harvard.*

**Chapter Objectives**

- Plan and document a workbook
- Create formulas containing cell references and mathematical operators (MOUS Ex2002-5-1)
- Write functions including Sum, Average, Max, and Min (MOUS Ex2002-5-2)
- Use Excel's AutoSum feature to automatically write Sum functions
- Learn several ways to copy a formula from one cell to many other cells
- Differentiate between absolute, mixed, and relative cell reference (MOUS Ex2002-5-1)
- Adjust column widths (MOUS Ex2002-3-2)
- Set a print area (MOUS Ex2002-3-7)
- Move text, values, and formulas (MOUS Ex2002-1-1)
- Insert and delete rows and columns (MOUS Ex2002-3-2)
- Format cells (MOUS Ex2002-3-1)
- Create cell comments (MOUS Ex2002-7-3)

CHAPTER

2

two

Planning and  
Creating a  
Worksheet**Chapter Objectives**

Each chapter begins with a list of competencies covered in the chapter.

**Task Reference**

Provides steps to accomplish an especially important task.

**task reference****Changing Relative References to Absolute or Mixed References**

- Double-click the cell containing the formula that you want to edit or click the cell and then press **F2**
- Move the insertion point, a vertical bar, to the left of the cell reference you want to alter
- Press function key **F4** repeatedly until the absolute or mixed reference you want appears
- Press **Enter** to complete the cell edit procedure

**Making the Grade**

Short-answer questions appear at the end of each session and answers appear at the end of the book.

## SESSION 2.1

**making**

1. Explain how AutoSum works and what it does.
2. Suppose you select cell A14 and type D5+F5. What is stored in cell A14: text, a value, or a formula?
3. You can drag the \_\_\_\_\_, which is a small black square in the lower-right corner of the active cell, to copy the cell's contents.
4. Evaluation of a formula such as =D4+D5\*D6 is governed by order of precedence. Explain what that means in general and then indicate the order in which Excel calculates the preceding expression.
5. Suppose Excel did not provide an AVERAGE function. Show an alternative way to compute the average of cell range A1:B25 using the other Excel statistical functions.



## Copied formulas' results

1. Click cell **G4** to make it the active cell. The cell's formula, **=F4/B4**, appears in the formula bar
  2. Click **Edit** on the menu bar and then click **Copy** to copy the cell's contents to the Clipboard. Notice that a dashed line encloses the cell whose contents are on the Clipboard
- tip:** You can press **Ctrl-C** instead of using the Copy command. Those of you who keep your hands on the keyboard may favor this keyboard shortcut.
3. Click and drag cells **G5** through **G8** to select them. They are the target range into which you will paste the cell G4's contents
  4. Click **Edit** on the menu bar and then click **Paste**. Excel copies the Clipboard's contents into each of the cells in the selected range and then adjusts each cell's formula to correspond to its new location. Notice that the Paste Options Smart Tag appears below and to the right of cell G8 (see Figure 2.16). The Paste Options Smart Tag provides several formatting and copying options in its list. You can access the options by clicking the Smart Tag list arrow

	A	B	C	D	E	F	G	H
1	Aluminum Can Recycling Contest							
2								
3	City	Population	Jan	Feb	Mar	Total	Per Capita	
4	Arcata	15955	10505	24556	12557	47628	3.003574	
5	Los Gatos	28951	24557	21777	26719	73053	2.523578	
6	Pasadena	142547	10					
7	San Diego	2801561	271					
8	Sunnyvale	1689908	152					
9	Total		437					
10	Minimum							
11	Average		875					
12	Maximum		271					
13								
14								

FIGURE 2.16  
Copied formulas' results

## Step-by-Step Instruction

Numbered steps guide you through the exact sequence of keystrokes to accomplish the task.

## Tips

Tips appear within steps and either indicate possible missteps or provide alternatives to a step.

## Screen Shots

Screen shots show you what to expect at critical points.

## hands-on projects

## practice

### Work Hours

Wexler's Tool and... a group of five... record on a weekly... each employee works... and percentage of... at each employee's... the information... efficient way to record... Alan Gin, the com... wants you to pre... report your group's... ages. You create a... and wages.

### Wages.xls and

on sheet and then... ove to that work... all the employees'... ve row 1: Click cell... and release the... he Menu bar and... he range and type... click cell C1, type... e Wages, click cell

12. Click cell **E3** and type the formula that represents the employee's percentage of the total wages: **=D3/D\$8\*100**
13. Copy the formula in cell **E3** to the cell range **E4:E7**
14. Select cell range **A1:E8**, click **Format**, click **AutoFormat**, select the **Simple** format, and click **OK**
15. Select cell range **E3:E7** and click the **Decrease Decimal** button enough times to reduce the displayed percentages to two decimal places
16. Click cell **A10** and type your first and last names
17. Set the left, right, top, and bottom margins to two inches
18. Either execute **Print** or execute **Save As**, according to your instructor's direction

### 2. Creating an Invoice

As office manager of Randy's Foreign Cars, one of your duties is to produce and mail invoices to customers who have arranged to pay for their automobile repairs up to 30 days after mechanics perform the work. Randy's invoices include parts, sales tax on parts, and labor charges. State law stipulates that customers do not pay sales tax on the labor charges. Only parts are subject to state sales tax. State sales tax is 6 percent. Create and print an invoice whose details appear below.

## End-of-Chapter Hands-on Projects

A rich variety of projects introduced by a case lets you put into practice what you have learned. Categories include Practice, Challenge, On the Web, E-Business, Around the World, and a running case project.

## anotherword

### about Smart Tags

Microsoft Office Smart Tags are a set of buttons that are shared across the Office applications. The buttons appear when needed, such as when Excel detects you may have made an error in an Excel formula, and gives the user appropriate options to change the given action or error.

## Another Way/ Another Word

Another Way highlights an alternative way to accomplish a task; Another Word explains more about a topic.

## reference roundup

Task	Location	Preferred Method
Writing formulas	EX 2.9	• Select a cell, type <b>=</b> , type the formula, press <b>Enter</b>
Modifying an AutoSum cell range by pointing	EX 2.11	• Press an arrow key repeatedly to select leftmost or topmost cell in range, press and hold <b>Shift</b> , select cell range with arrow keys, release <b>Shift</b> , press <b>Enter</b>
Writing a function using the Paste Function button	EX 2.17	• Select a cell, click <b>Paste Function</b> , click a function category, click a function name, click <b>OK</b> , complete the Formula Palette dialog box, click <b>OK</b>
Copying and pasting a cell or range of cells	EX 2.21	• Select source cell(s), click <b>Edit</b> , click <b>Copy</b> , select target cell(s), click <b>Edit</b> , click <b>Paste</b>
Copying cell contents using a cell's fill handle	EX 2.23	• Select source cell(s), drag the fill handle to the source cell(s) range, release the mouse button

## Task Reference RoundUp

Provides a quick reference and summary of a chapter's task references.



APPROVED COURSEWARE

## What does this logo mean?

It means this courseware has been approved by the Microsoft® Office User Specialist Program to be among the finest available for learning *Microsoft Word 2002*, *Microsoft Excel 2002*, *Microsoft Access 2002*, and *Microsoft PowerPoint 2002*. It also means that upon completion of this courseware, you may be prepared to become a Microsoft Office User Specialist. The I-Series Microsoft Office XP books are available in three levels of coverage: Brief level, Intro level, and the Complete level. The I-Series Introductory books are approved courseware to prepare you for the MOUS level 1 exam. The I-Series Complete books will prepare you for the expert level exam.

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# dedication

**TO** my wonderful family:

Rick, Daniel, Dusty, Tori, Evan, Connor and  
Gage

For all that they do to support me when writing  
isn't easy and to celebrate the times when it  
goes well.

*M.W.*



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