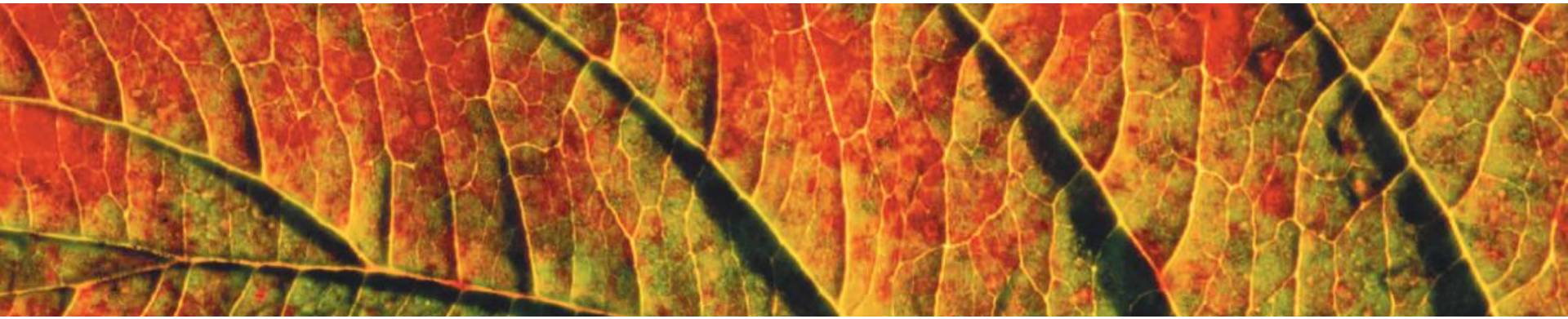
Excel Tutorial 1: Getting Started with Excel

Microsoft® Office 2010



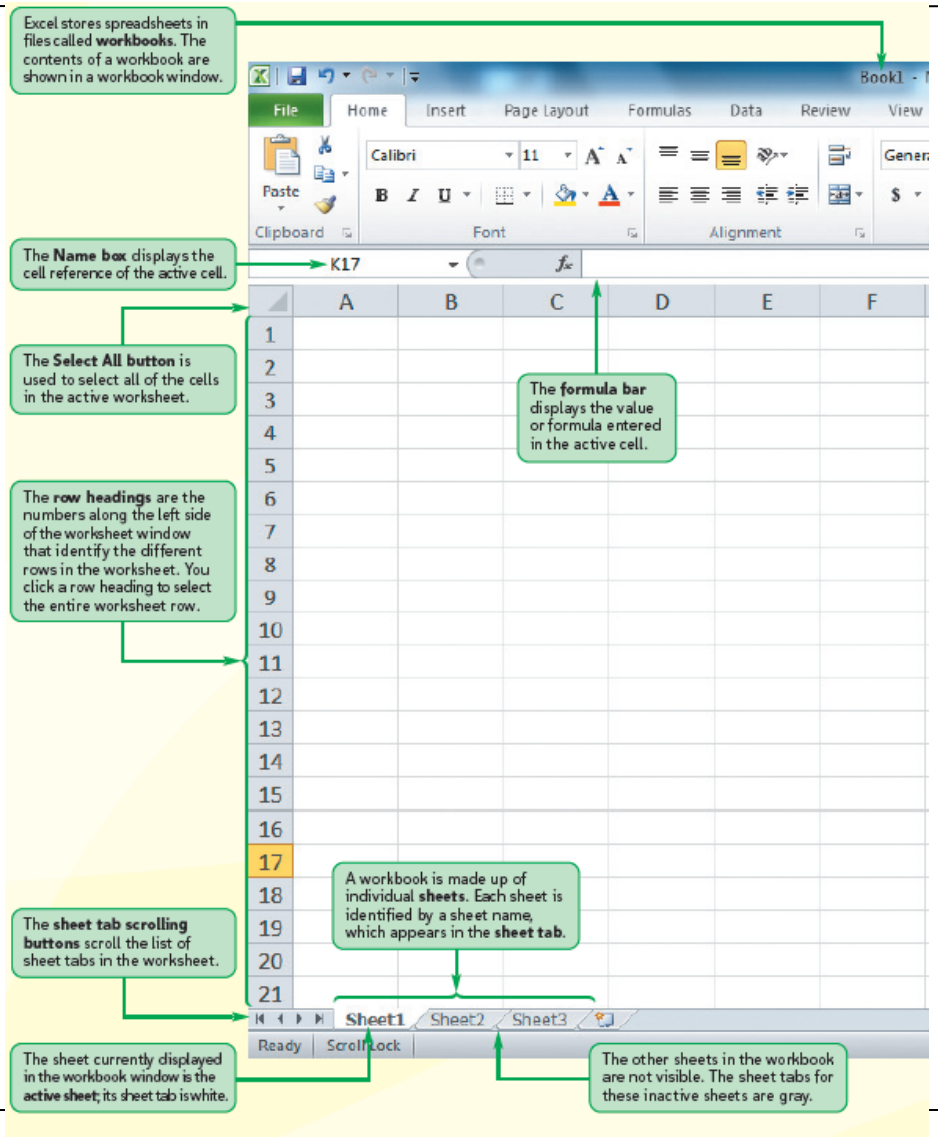
Objectives

- Understand the use of spreadsheets and Excel
- Learn the parts of the Excel window
- Scroll through a worksheet and navigate between worksheets
- Create and save a workbook file
- Enter text, numbers, and dates into a worksheet
- Resize, insert, and remove columns and rows

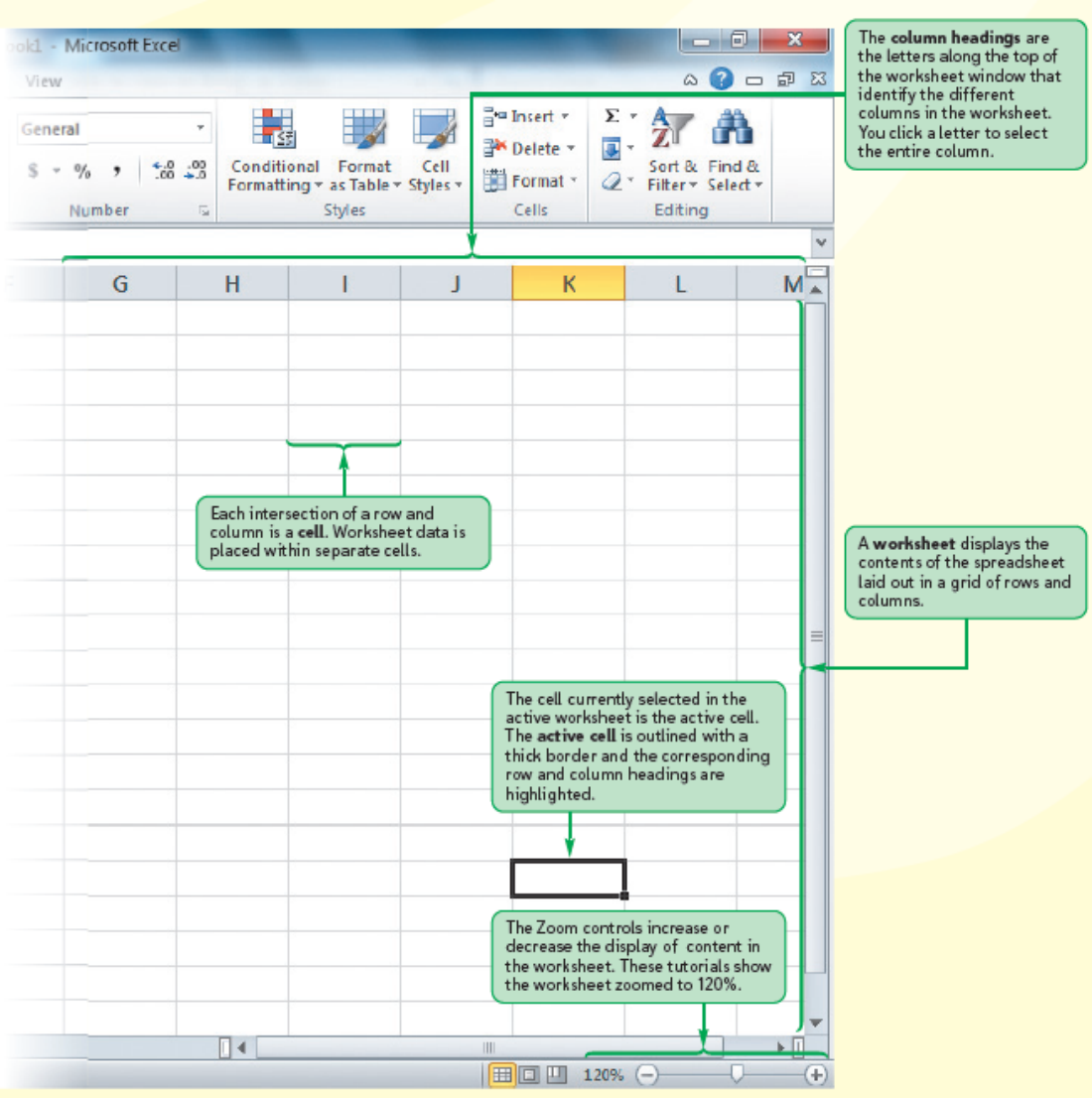
Objectives

- Select and move cell ranges
- Insert formulas and functions
- Insert, delete, move, and rename worksheets
- Work with editing tools
- Preview and print a workbook

Visual Overview



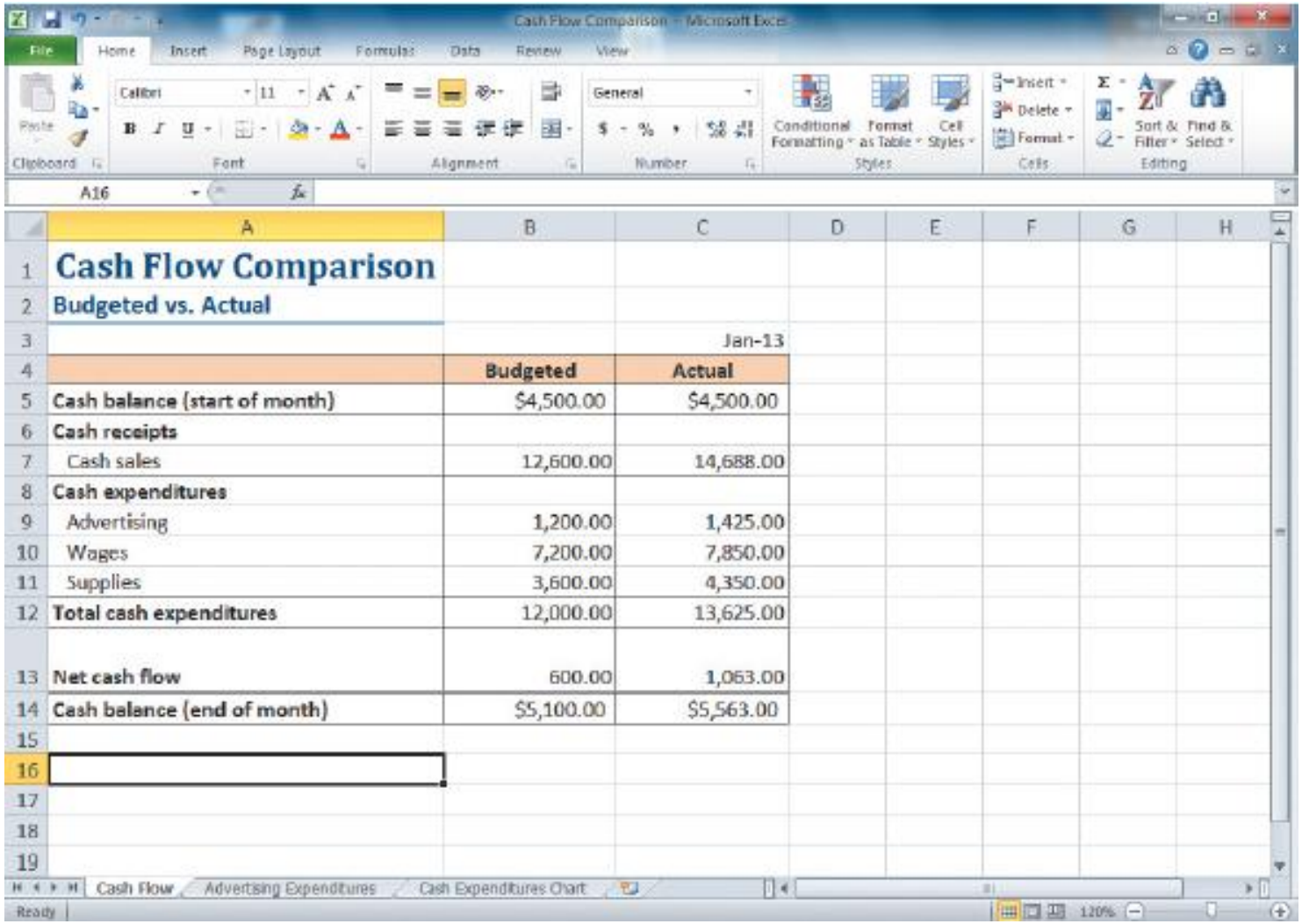
The Excel Window



Introducing Microsoft Excel 2010

- Computer program used to enter, store, analyze, and present quantitative data
- Creates electronic versions of **spreadsheets**
  - Collection of text and numbers laid out in a grid
- Displays values calculated from data
- Allows **what-if analysis**
  - Ability to change values in a spreadsheet and assess the effect they have on calculated values

Spreadsheet Data in Excel



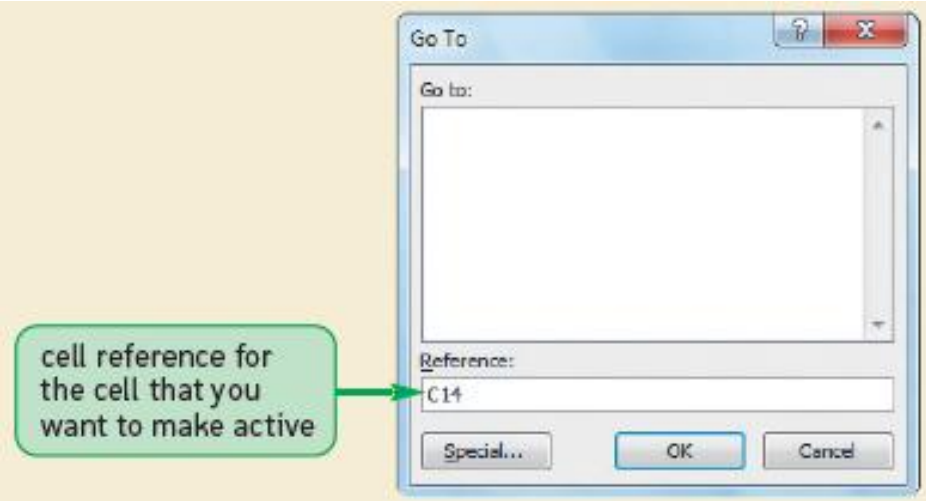
	A	B	C
1	**Cash Flow Comparison**		
2	**Budgeted vs. Actual**		
3			Jan-13
4		**Budgeted**	**Actual**
5	**Cash balance (start of month)**	$4,500.00	$4,500.00
6	**Cash receipts**		
7	Cash sales	12,600.00	14,688.00
8	**Cash expenditures**		
9	Advertising	1,200.00	1,425.00
10	Wages	7,200.00	7,850.00
11	Supplies	3,600.00	4,350.00
12	**Total cash expenditures**	12,000.00	13,625.00
13	**Net cash flow**	600.00	1,063.00
14	**Cash balance (end of month)**	$5,100.00	$5,563.00
15			
16			
17			
18			
19			

Worksheet Navigation

- A workbook can have two kinds of sheets:
  - Worksheet contains a grid of rows and columns into which user enters data
  - **Chart sheet** provides visual representation of data
- **Cell reference** identifies column/row location

Worksheet Navigation

- To navigate between worksheets
  - Use sheet tabs
- To navigate within a worksheet
  - Use mouse, keyboard, GoTo dialog box, or type cell reference in Name box



Worksheet Navigation Keys

Press	To move the active cell
↑ ↓ ← →	Up, down, left, or right one cell
Home	To column A of the current row
Ctrl+Home	To cell A1
Ctrl+End	To the last cell in the worksheet that contains data
Enter	Down one row or to the start of the next row of data
Shift+Enter	Up one row
Tab	One column to the right
Shift+Tab	One column to the left
Page Up, Page Down	Up or down one screen
Ctrl+Page Up, Ctrl+Page Down	To the previous or next sheet in the workbook

Planning a Workbook

- Use a **planning analysis sheet** to define:
  - Goal or purpose of workbook
  - Type of data to collect
  - Formulas needed to apply to data you collected and entered
  - Appearance of workbook content

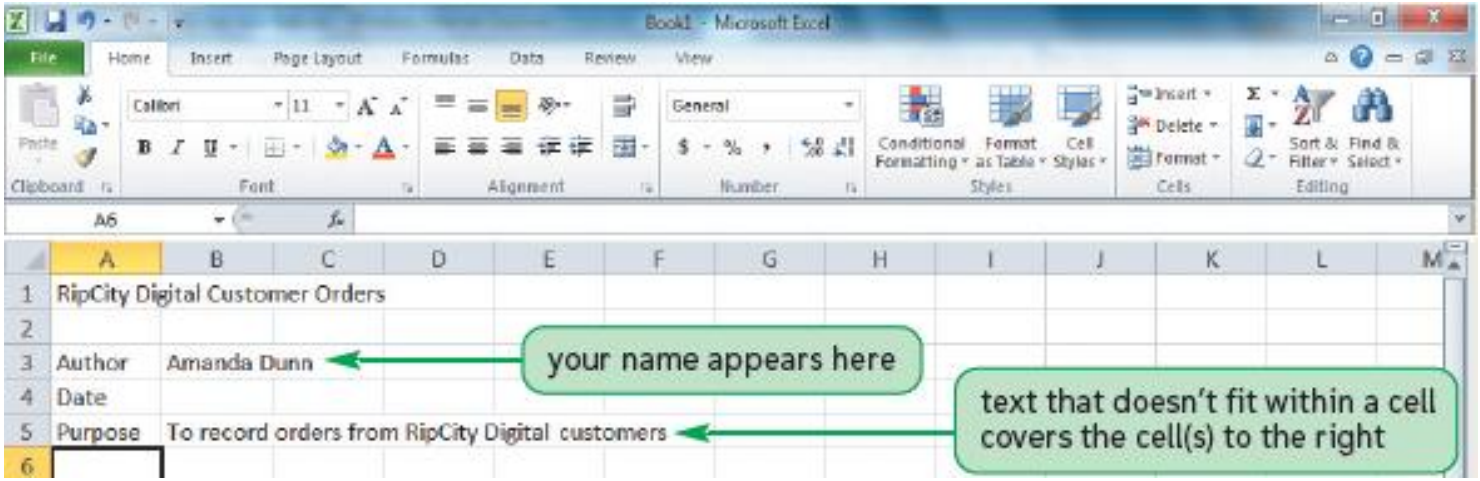
Entering Text, Numbers, and Dates

- **Text data**
  - Combination of letters, numbers, and symbols
  - Often referred to as a **text string**
- **Number data**
  - Numerical value to be used in a mathematical calculation
- **Date** and **time data**
  - Commonly recognized formats for date and time values

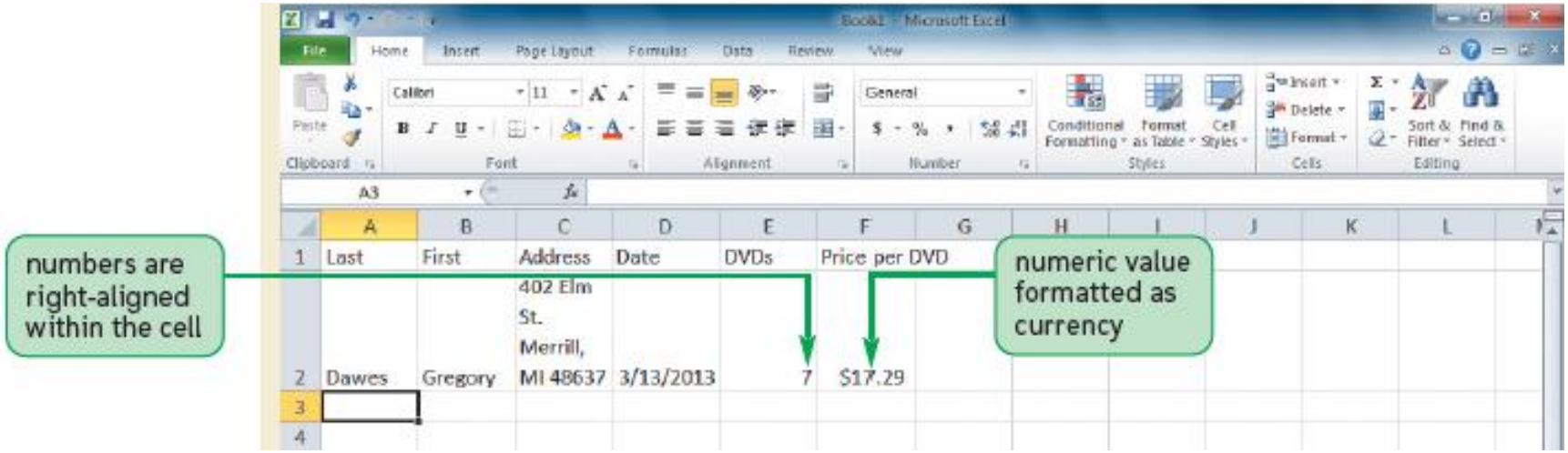
Entering Text

- New data appears in both the active cell and the formula bar
- Truncation
- AutoComplete feature
- To enter multiple lines of text within a cell
  - Create a line break with Alt + Enter

Entering Text



Entering Numbers



Working with Columns and Rows

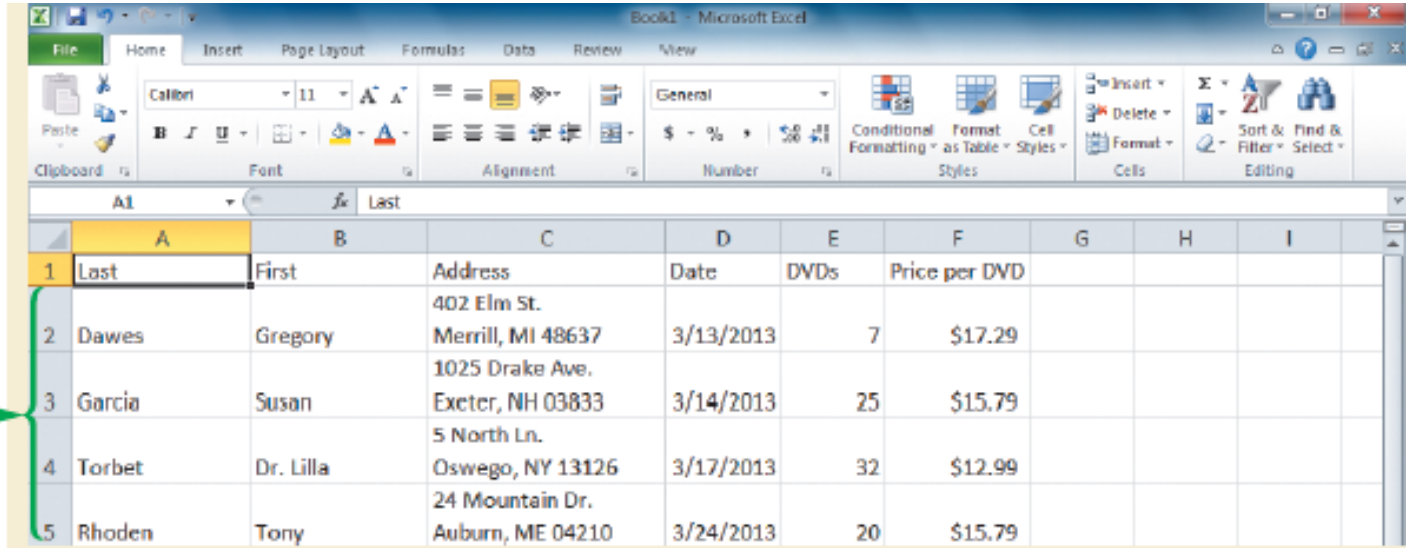
- To make data easier to read:
  - Modify size of columns and rows in a worksheet
- To modify size of columns or rows:
  - Drag border to resize
  - Double-click border to autofit
  - Format the Cells group to specify

Working with Columns and Rows

- Column width
  - Expressed in terms of number of characters or **pixels** (8.43 characters equals 64 pixels)
  - Note: Pixel size is based on screen resolution
- Row height
  - Measured in **points** (1/72 of an inch) or pixels
  - Default row height: 15 points or 20 pixels

Working with Columns and Rows

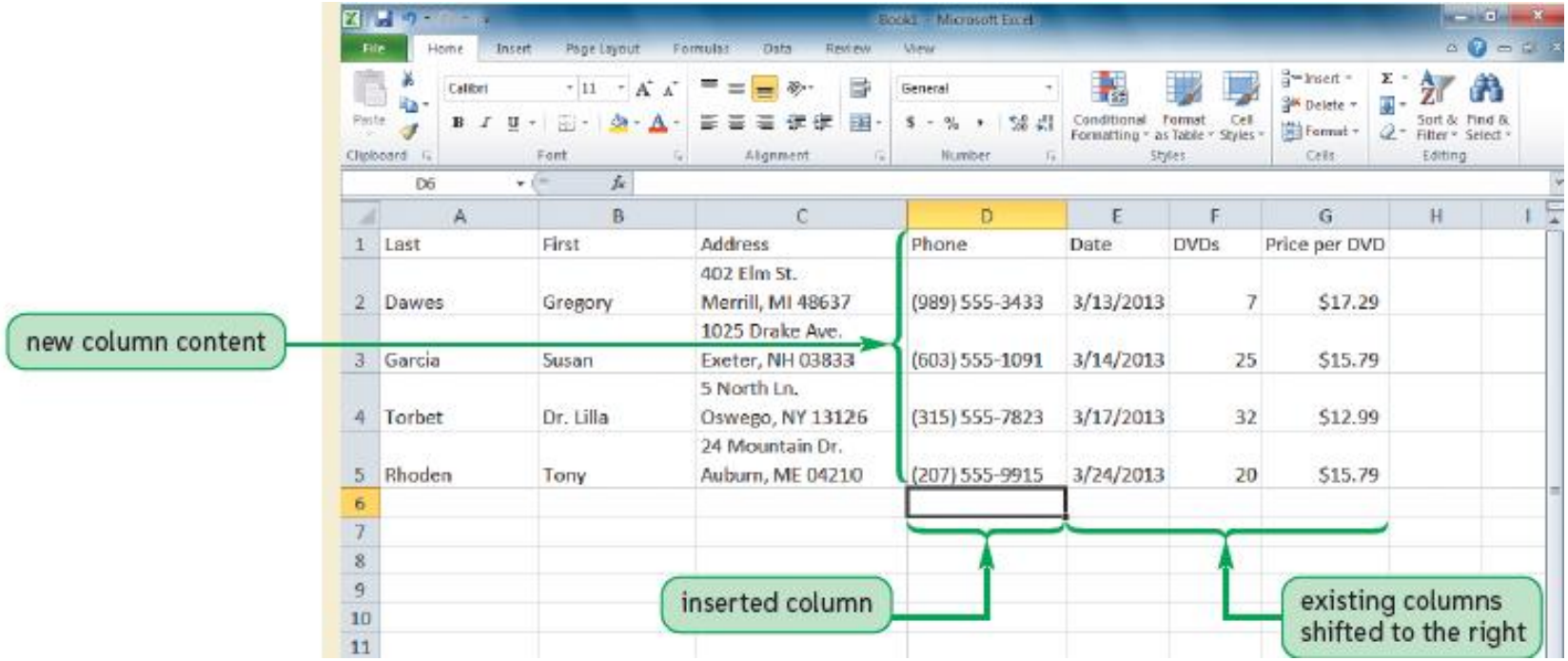
row heights match their contents



	A	B	C	D	E	F
1	Last	First	Address	Date	DVDs	Price per DVD
2	Dawes	Gregory	402 Elm St. Merrill, MI 48637	3/13/2013	7	$17.29
3	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	3/14/2013	25	$15.79
4	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	3/17/2013	32	$12.99
5	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	3/24/2013	20	$15.79

Working with Columns and Rows

- Inserting a column or row
  - Existing columns or rows shift to accommodate

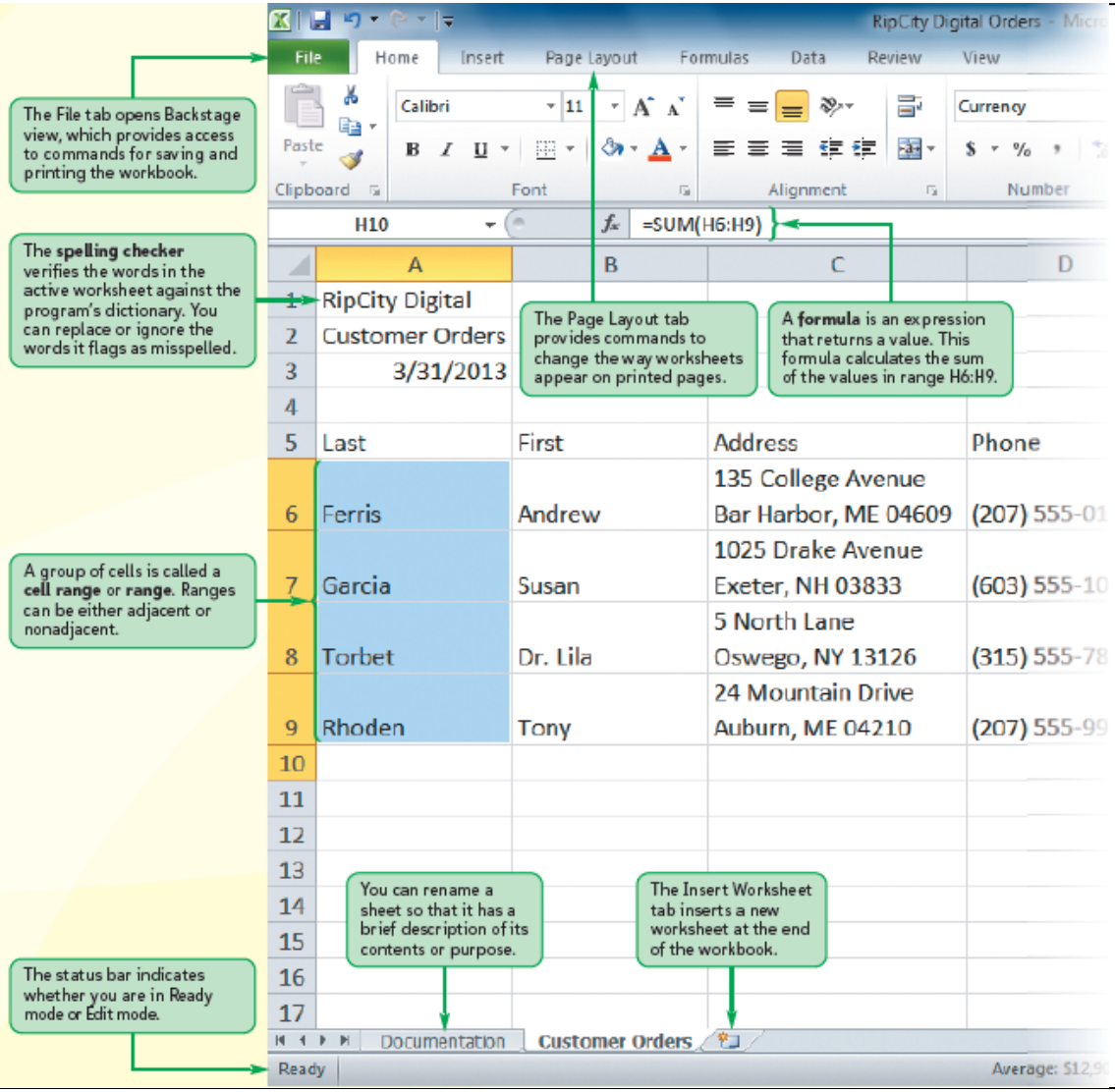


	A	B	C	D	E	F	G
1	Last	First	Address	Phone	Date	DVDs	Price per DVD
2	Dawes	Gregory	402 Elm St. Merrill, MI 48637	(989) 555-3433	3/13/2013	7	$17.29
3	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2013	25	$15.79
4	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2013	32	$12.99
5	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2013	20	$15.79
6							
7							
8							
9							
10							
11							

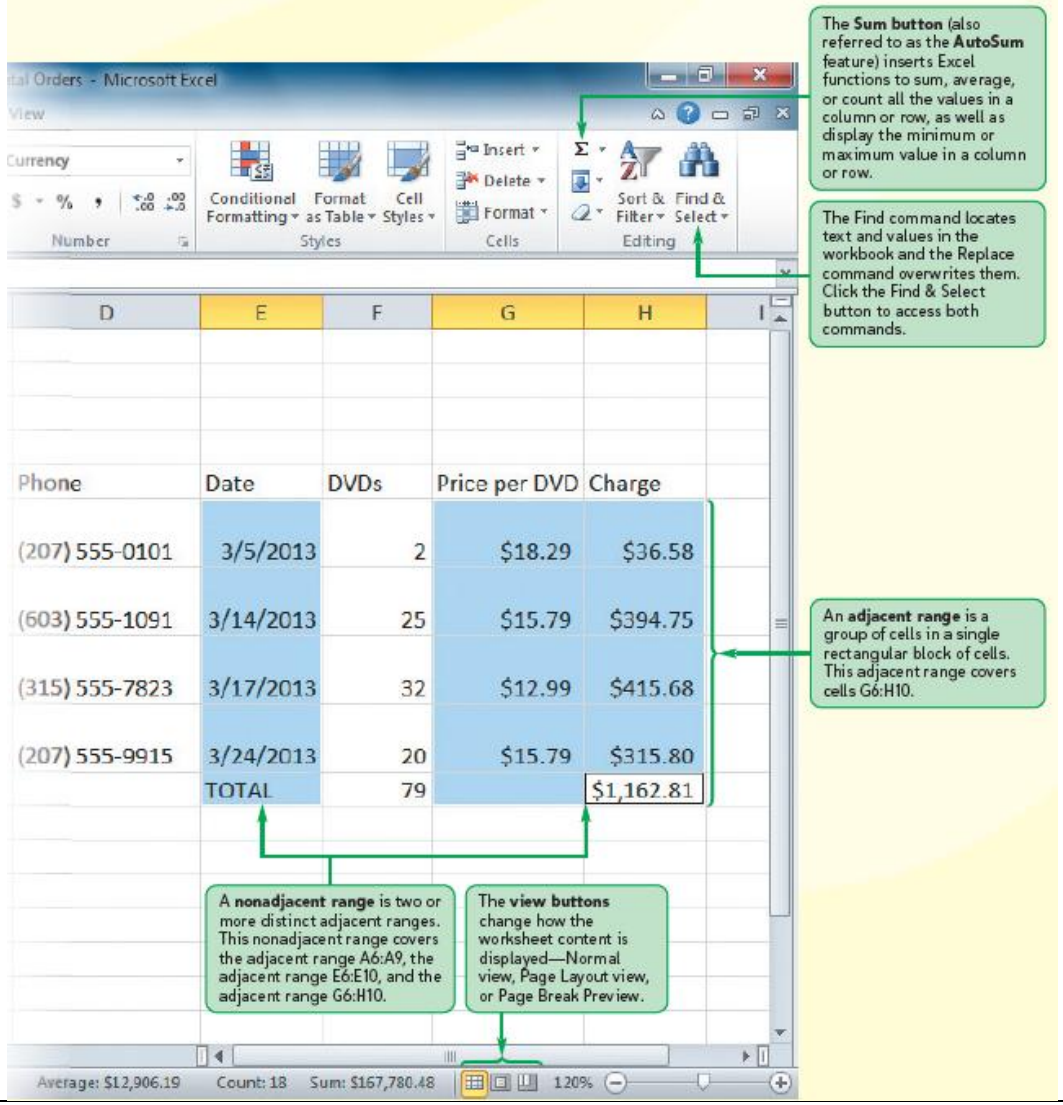
Working with Columns and Rows

- Deleting and clearing a row or column
  - Deleting removes both the data and the cells
  - Clearing removes the data, leaving blank cells where data had been

Visual Overview



Worksheet Data

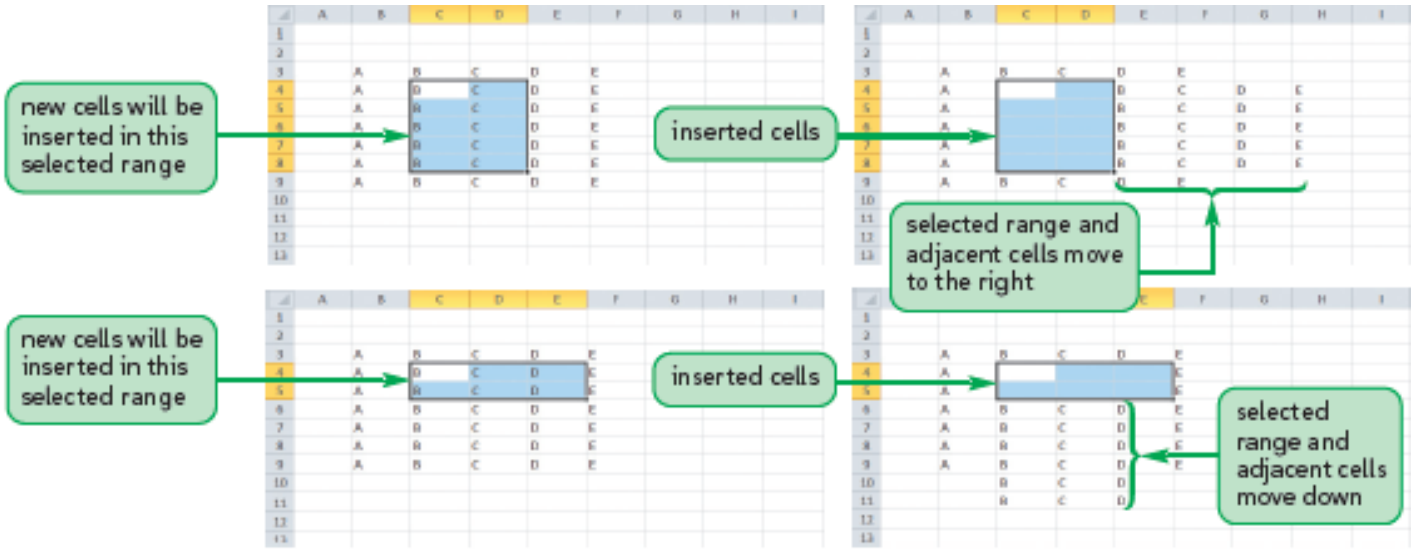


Working with Cells and Ranges

- **Range reference** indicates location and size of a cell range
  - Adjacent (A1:G5)
  - Nonadjacent (A1:A5;F1:G5)
- Selecting a range
  - Work with all cells in the range as a group
- Moving and copying a range
  - Drag and drop
  - Cut and paste

Working with Cells and Ranges

- Inserting and deleting a range
  - Existing cells shift to accommodate the change



Working with Formulas

- **Formula**
  - An expression that returns a value
  - Written using **operators** that combine different values, resulting in a single displayed value

Operation	Arithmetic Operator	Example	Description
Addition	+	=10+A1	Adds 10 to the value in cell A1
		=B1+B2+B3	Adds the values in cells B1, B2, and B3
Subtraction	–	=C9–B2	Subtracts the value in cell B2 from the value in cell C9
		=1–D2	Subtracts the value in cell D2 from 1
Multiplication	*	=C9*B9	Multiplies the values in cells C9 and B9
		=E5*0.06	Multiplies the value in cell E5 by 0.06
Division	/	=C9/B9	Divides the value in cell C9 by the value in cell B9
		=D15/12	Divides the value in cell D15 by 12
Exponentiation	^	=B5^3	Raises the value of cell B5 to the third power
		=3^B5	Raises 3 to the value in cell B5

Working with Formulas

- Entering a formula
  - Click cell where you want formula results to appear
  - Type = and an expression that calculates a value using cell references and arithmetic operators
    - Cell references allow you to change values used in the calculation without having to modify the formula itself
  - Press Enter or Tab to complete the formula

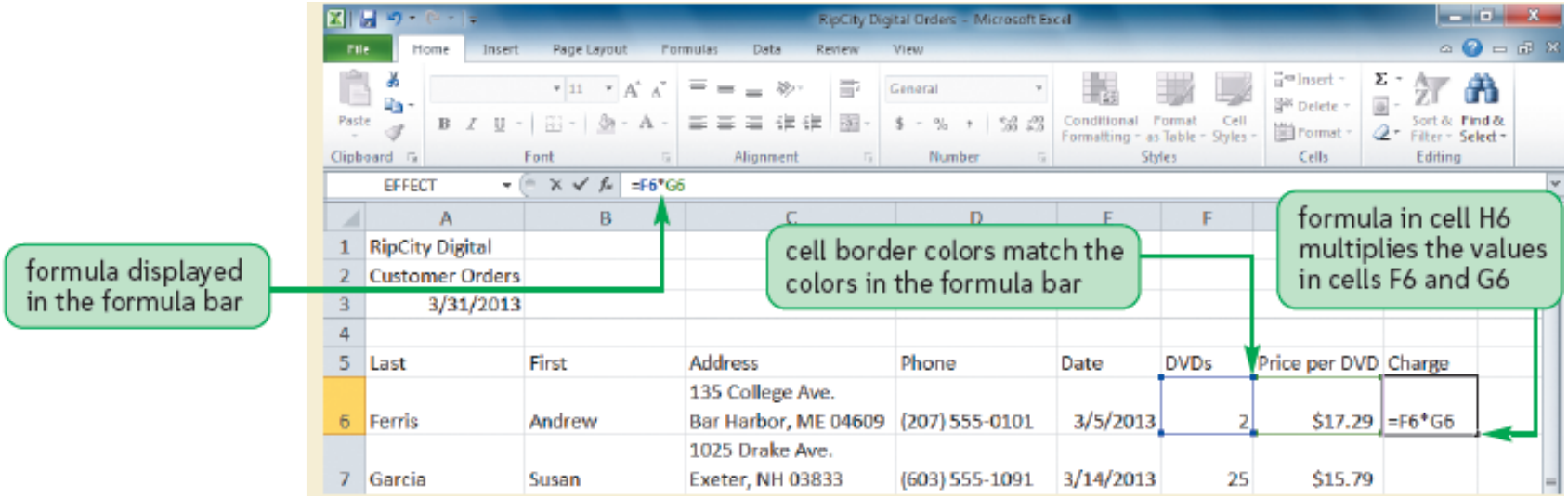
Working with Formulas

- **Order of precedence**
  - Set of predefined rules used to determine sequence in which operators are applied in a calculation

Formula	Application of the Order of Precedence	Result
=50+10*5	10*5 calculated first and then 50 is added	100
=(50+10)*5	(50+10) calculated first and then multiplied by 5	300
=50/10–5	50/10 calculated first and then 5 is subtracted	0
=50/(10–5)	(10–5) calculated first and then 50 is divided by that value	10
=50/10*5	Two operators at same precedence level, so the calculation is done left to right in the expression	25
=50/(10*5)	(10*5) calculated first and then 50 is divided by that value	1

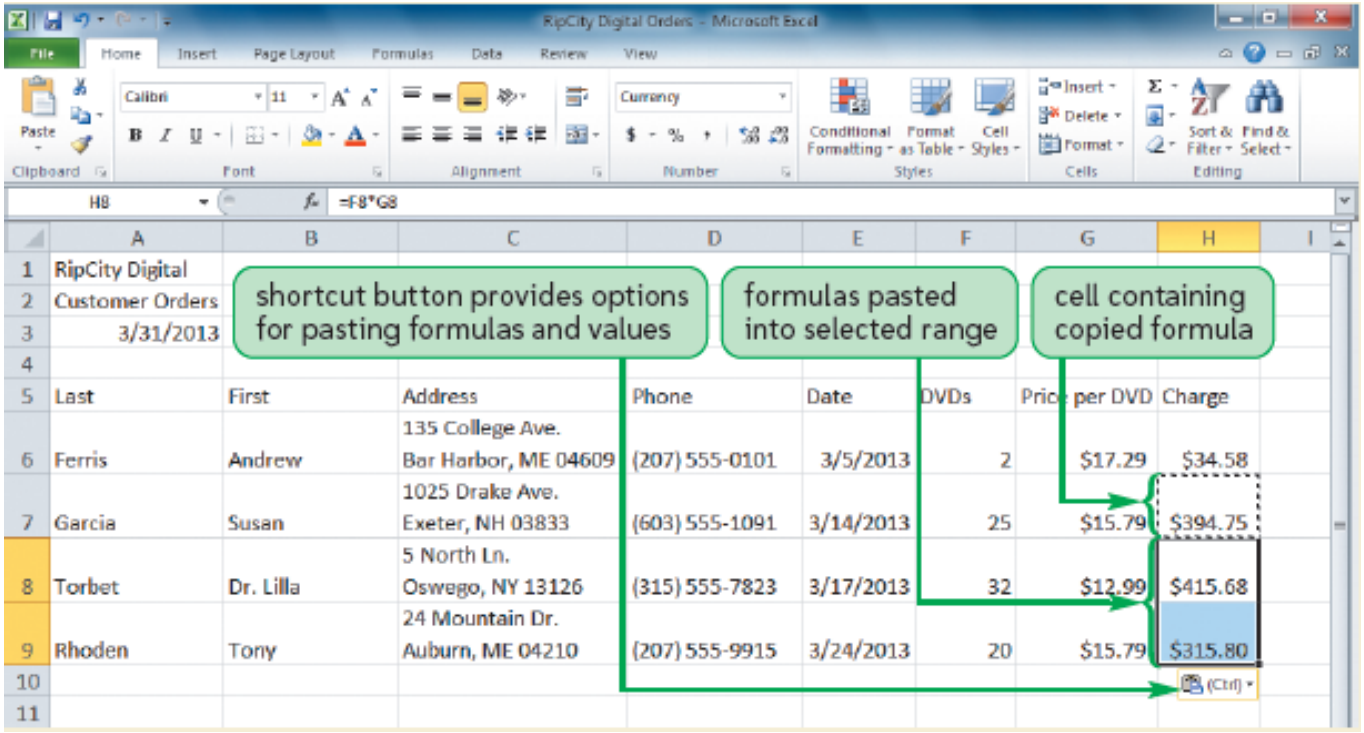
Working with Formulas

- Viewing a formula
  - Select cell and review expression displayed in the formula bar
  - Each cell reference is color coded in the formula and corresponding cell in the worksheet



Working with Formulas

- Copying and pasting formulas
  - Cell references adjust to reflect new location of the formula in the worksheet



Working with Formulas

- Guidelines for writing effective formulas:
  - Keep them simple
  - Do not hide data values within formulas
  - Break up formulas to show intermediate results

Introducing Functions

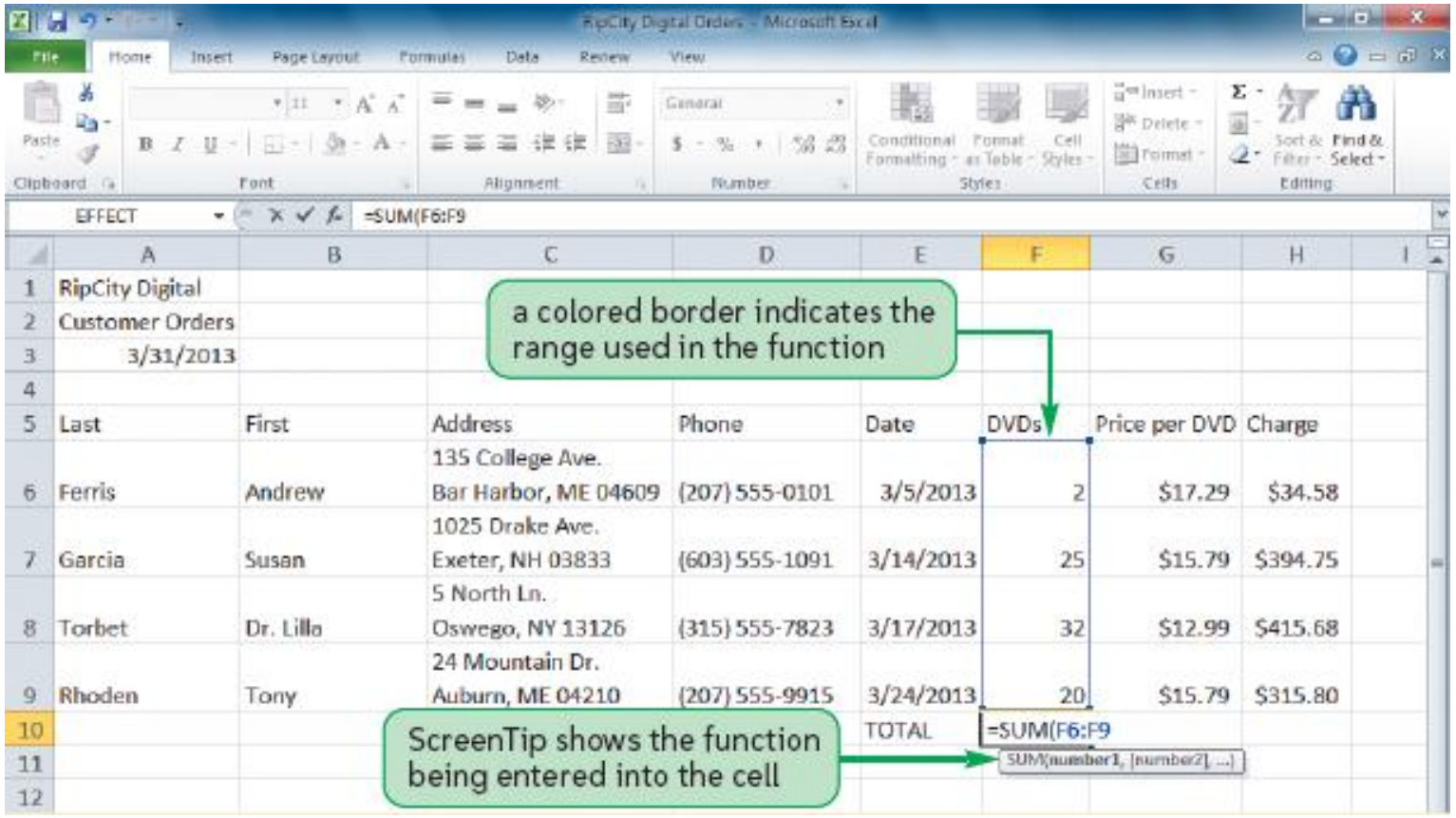
- **Function**
  - Named operation that returns a value
  - Simplifies a formula, reducing a long formula into a compact statement; for example, to add values in the range A1:A10:
    - Enter the long formula:

      =A1+A2+A3+A4+A5+A6+A7+A8+A9+A10

      - or -
    - Use the SUM function to accomplish the same thing:

      =SUM(A1:A10)

Entering a Function

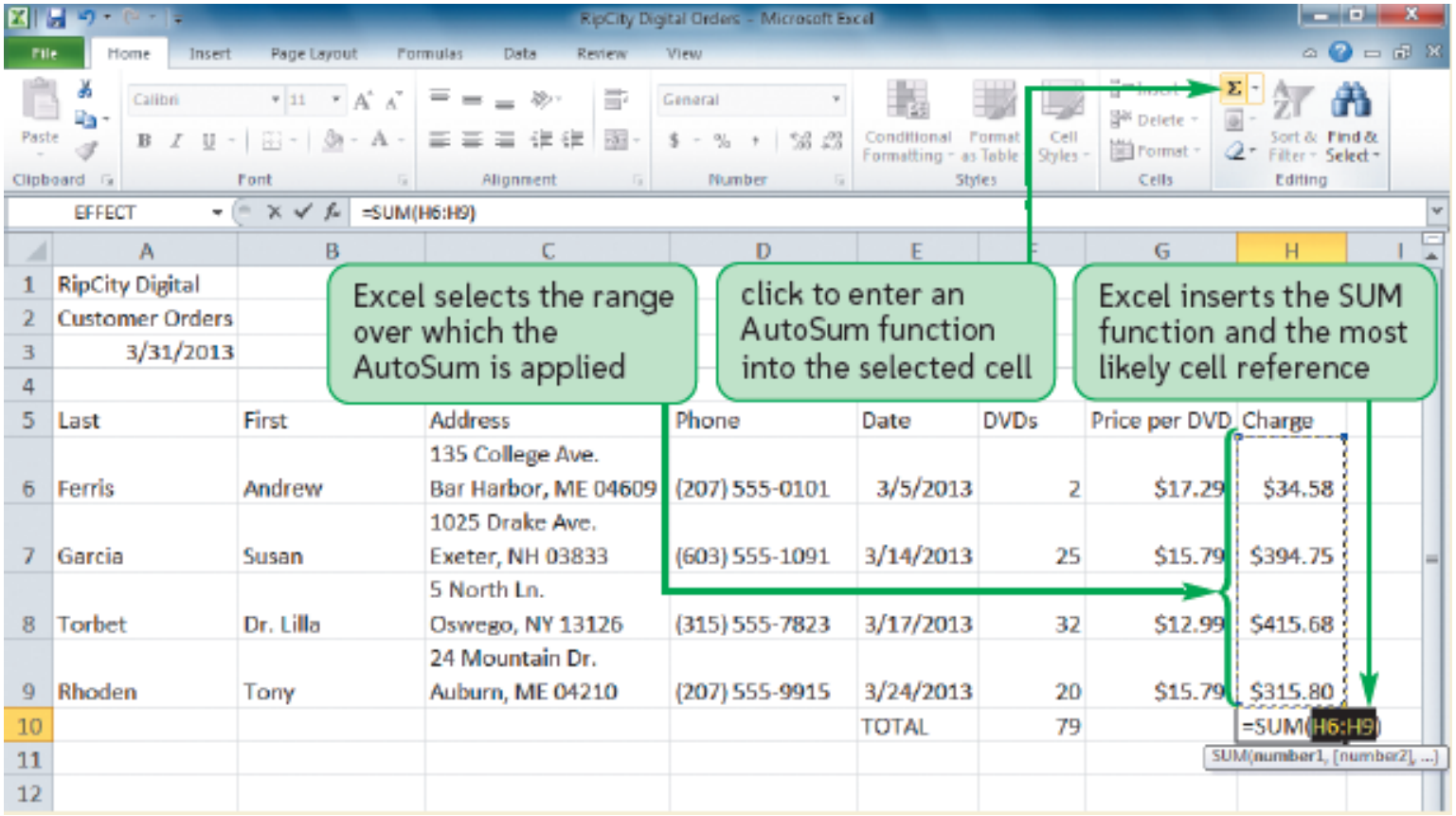


	A	B	C	D	E	F	G	H
1	RipCity Digital							
2	Customer Orders							
3	3/31/2013							
4								
5	Last	First	Address	Phone	Date	DVDs	Price per DVD	Charge
6	Ferris	Andrew	135 College Ave. Bar Harbor, ME 04609	(207) 555-0101	3/5/2013	2	$17.29	$34.58
7	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2013	25	$15.79	$394.75
8	Torbet	Dr. Lillo	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2013	32	$12.99	$415.68
9	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2013	20	$15.79	$315.80
10					TOTAL	=SUM(F6:F9		
11								
12								

Entering Functions with AutoSum

- Fast, convenient way to enter commonly used functions
- Includes buttons to quickly insert/generate:
  - Sum of values in column or row (SUM)
  - Average value in column or row (AVERAGE)
  - Total count of numeric values in column or row (COUNT)
  - Minimum value in column or row (MIN)
  - Maximum value in column or row (MAX)

Entering Functions with AutoSum



	A	B	C	D	E	F	G	H	I
1	RipCity Digital								
2	Customer Orders								
3	3/31/2013								
4									
5	Last	First	Address	Phone	Date	DVDs	Price per DVD	Charge	
6	Ferris	Andrew	135 College Ave. Bar Harbor, ME 04609	(207) 555-0101	3/5/2013	2	$17.29	$34.58	
7	Garcia	Susan	1025 Drake Ave. Exeter, NH 03833	(603) 555-1091	3/14/2013	25	$15.79	$394.75	
8	Torbet	Dr. Lilla	5 North Ln. Oswego, NY 13126	(315) 555-7823	3/17/2013	32	$12.99	$415.68	
9	Rhoden	Tony	24 Mountain Dr. Auburn, ME 04210	(207) 555-9915	3/24/2013	20	$15.79	$315.80	
10					TOTAL	79		=SUM(H6:H9)	
11									
12									

Working with Worksheets

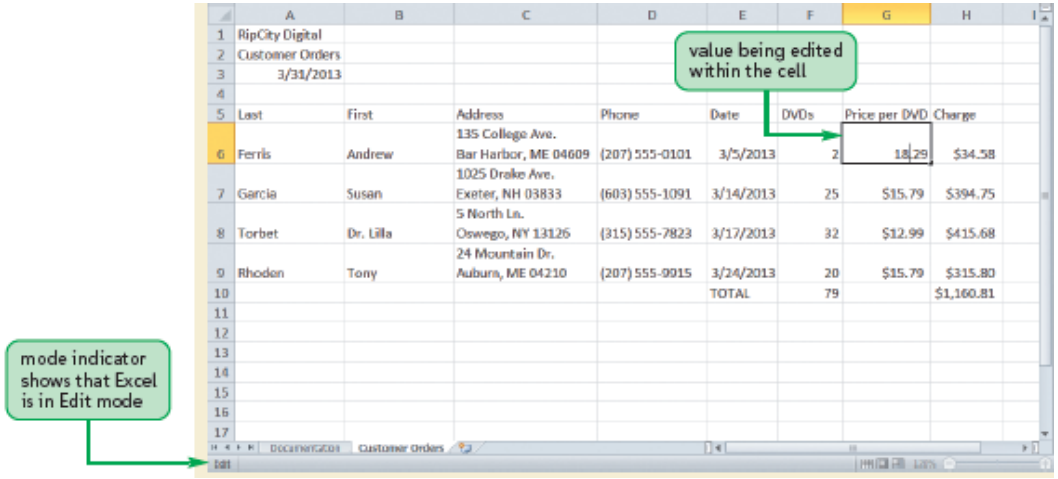
- Inserting a worksheet
  - Name of new worksheet is based on number and names of other sheets in the workbook
- Deleting a worksheet
- Renaming a worksheet
  - 31 characters maximum, including blank spaces
  - Width of sheet tab adjusts to length of name

Working with Worksheets

- Moving and copying a worksheet
  - To move:
    - Click and drag
  - To copy:
    - Ctrl + drag and drop
  - Place most important worksheets at beginning of workbook (leftmost sheet tabs), less important worksheets toward end (rightmost tabs)

Editing Worksheet Content

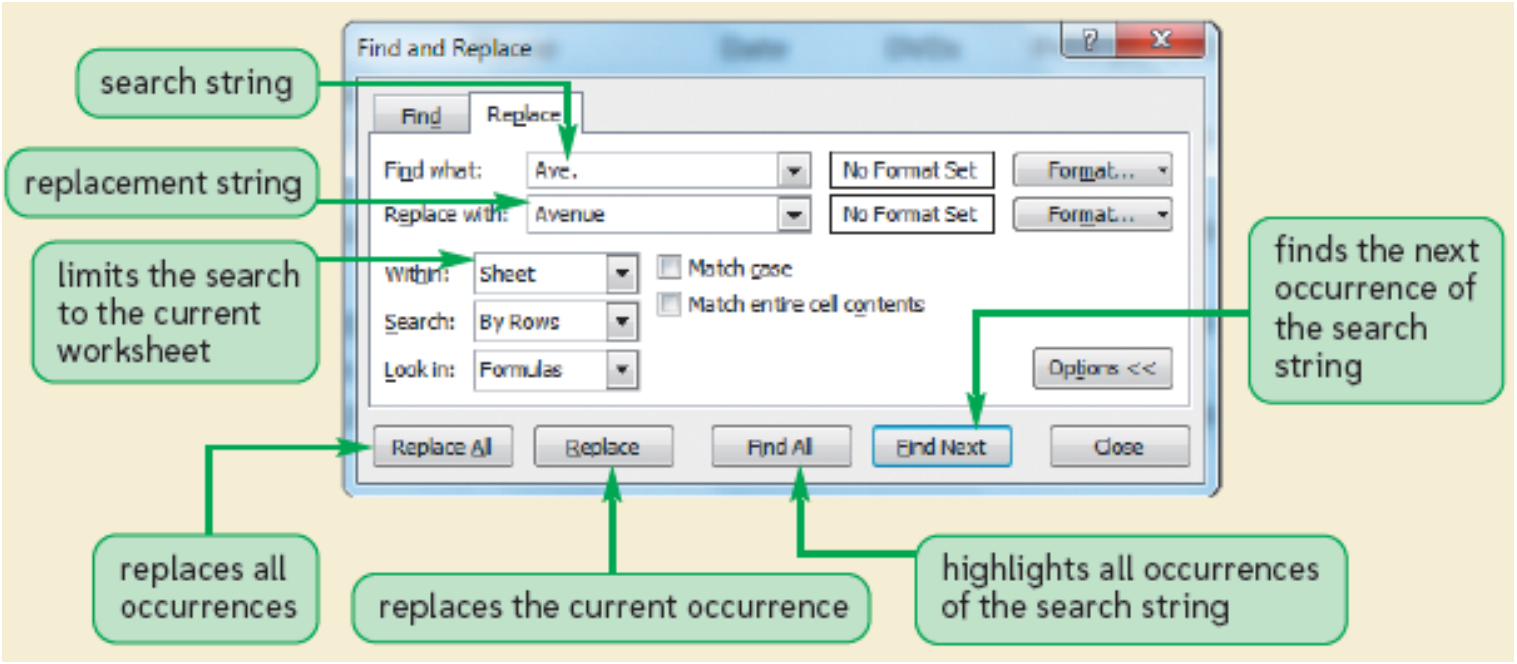
- Use **Edit mode** to edit cell contents
  - Keyboard shortcuts apply only to text within selected cell



- Undoing and redoing an action
  - Excel maintains a list of actions performed in a workbook during current session

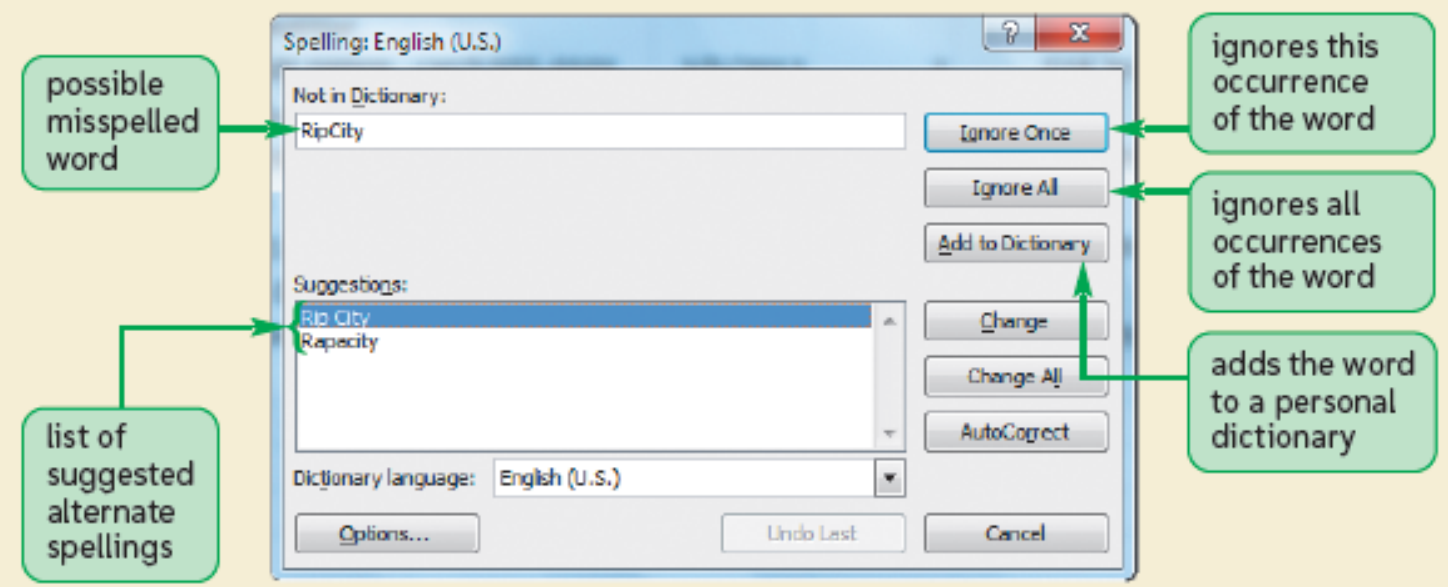
Editing Worksheet Content

- Using find and replace



Editing Worksheet Content

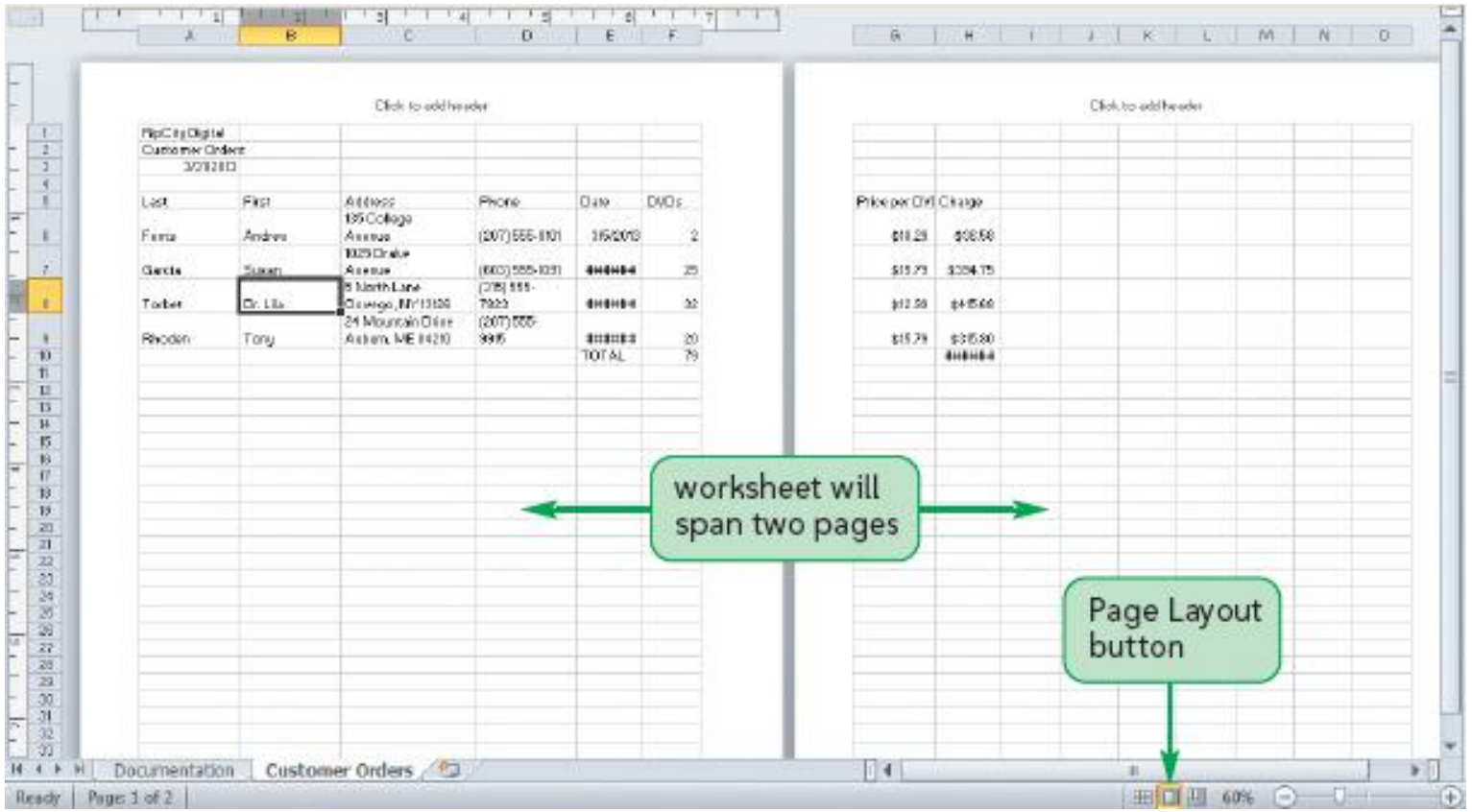
- Using the spelling checker



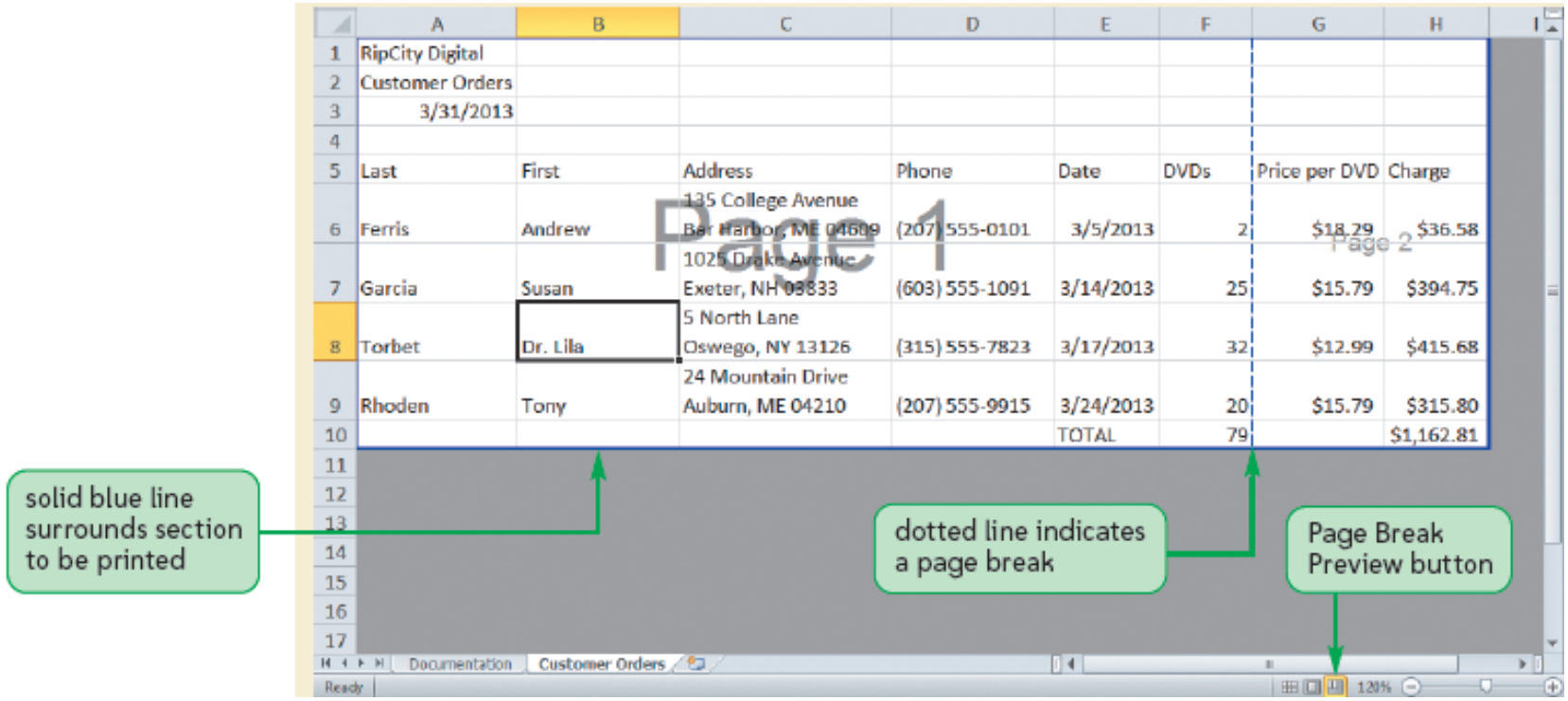
Previewing a Workbook

- Changing worksheet views
  - **Normal view**
  - **Page Layout view**
  - **Page Break Preview**

Page Layout View



Page Break Preview



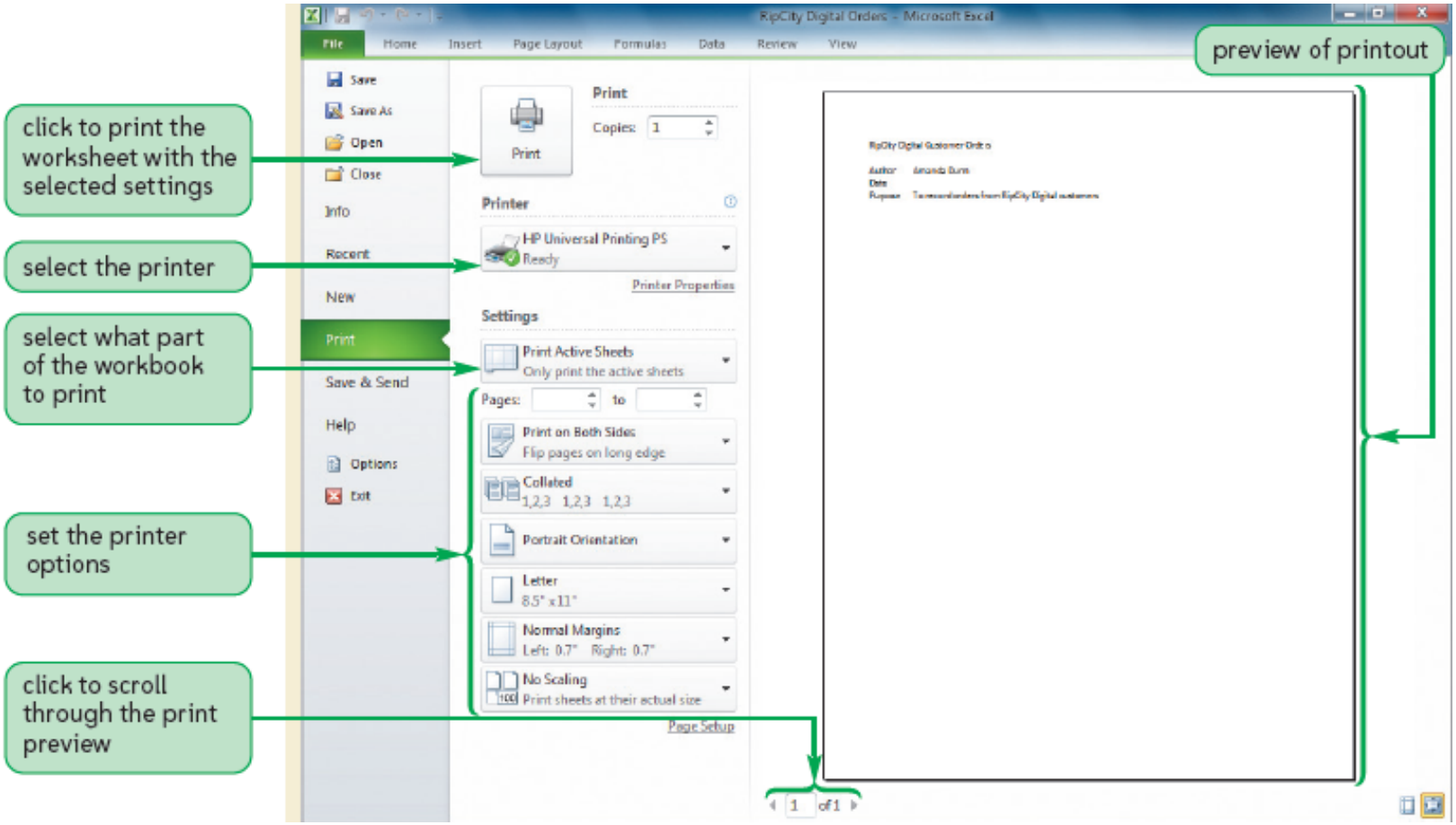
Previewing a Workbook

- Working with page orientation
  - **Portrait orientation** (default)
    - Page is taller than wide
  - **Landscape orientation**
    - Page is wider than tall

Printing a Workbook

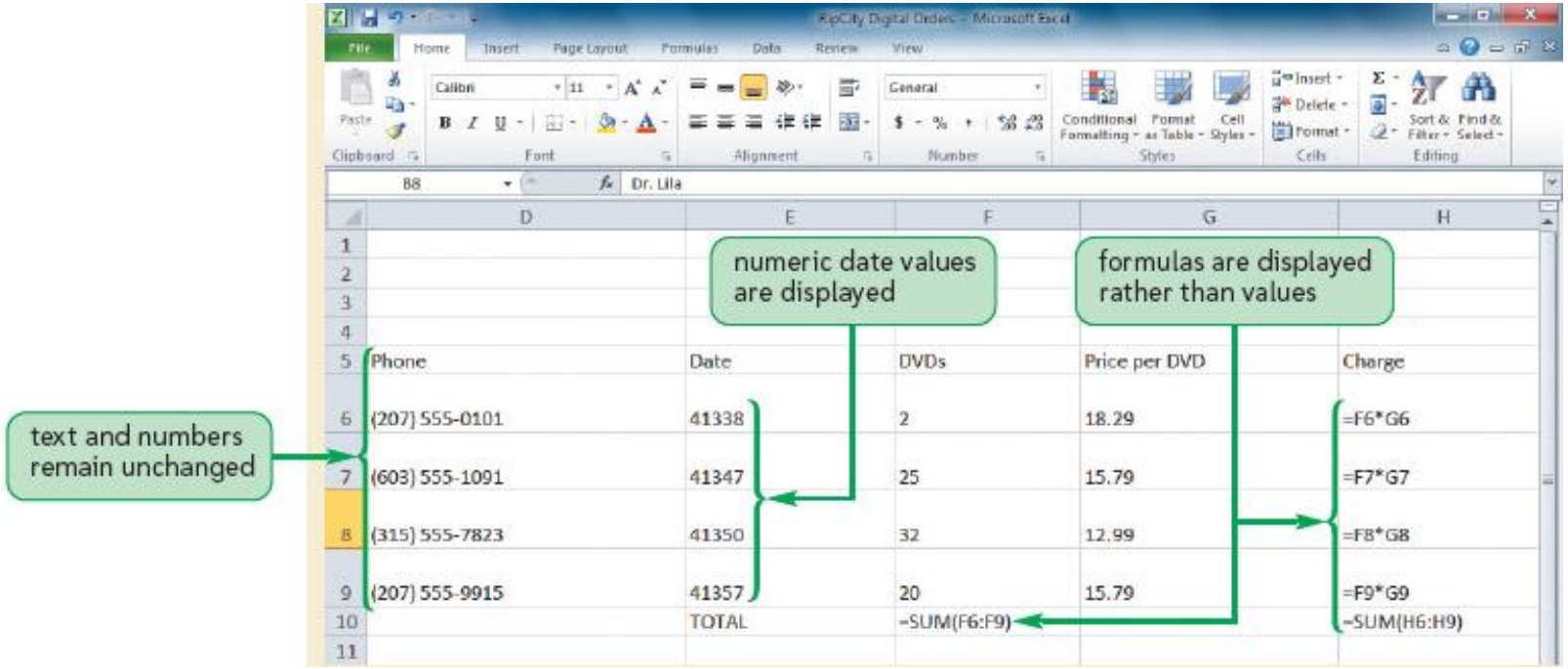
- Print tab provides options for choosing what to print and how to print
  - Printout includes only the data in the worksheet
  - Other elements (e.g., row/column headings, gridlines) will not print by default
- Good practice: Review print preview before printing to ensure that printout looks exactly as you intended and avoid unnecessary reprinting

Printing a Workbook



Viewing and Printing Worksheet Formulas

- Switch to **formula view**
  - Useful when you encounter unexpected results and want to examine underlying formulas or to discuss your formulas with a colleague



Viewing and Printing Worksheet Formulas

- **Scaling** the printout of a worksheet forces contents to fit on a single page