

# UNIT 4

## Microsoft Excel 2016



Student  
Data Files

**Chapter 1** Creating an Excel Workbook

**Chapter 2** Working with Formulas  
and Functions

**Chapter 3** Formatting Cells

**Chapter 4** Working with Charts

Before beginning this unit, be sure you have downloaded the GL16-StudentDataFiles folder from your ebook and copied the Unit4-Excel subfolder to your storage medium. The copied folder will become your working folder for this unit.



# Guidelines for

# Planning and Creating an Excel Workbook

When you create a workbook in Excel, you should take the time to plan how you will organize the data on the worksheets. Start by considering the source data you will use and the results you want to produce. Your plan will guide you as you enter the data on the worksheets.

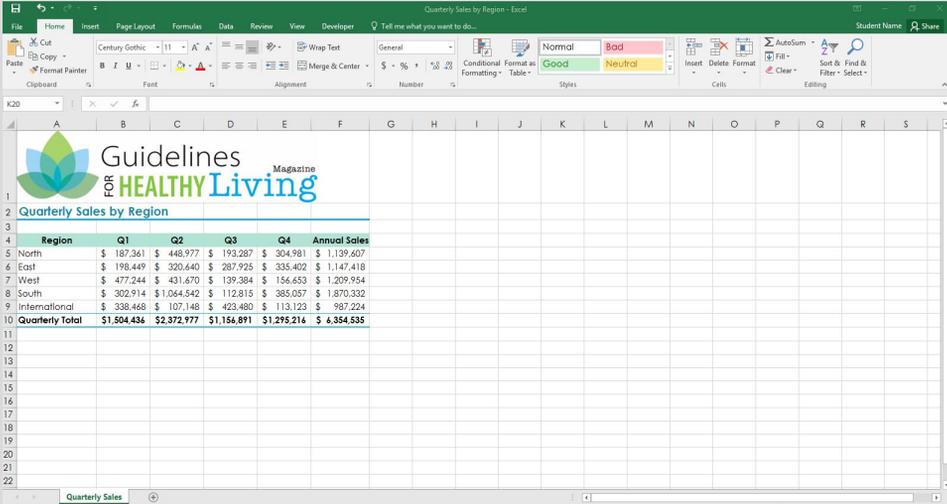
For example, say you are creating a workbook of annual advertising sales data. You have data for each sales quarter by region. You see two arrangement options that make sense. One option is to place the data for each quarter on a separate worksheet. The other option is to create a single worksheet that displays each region's sales by quarter. The choice you

make will depend on whether you want to analyze the sales for each quarter separately (the first option) or focus on the total sales and comparing the quarterly sales by region (the second option). In this case, you choose option 2.

Once you have entered and organized data on the worksheet, you can make any necessary calculations. For example, for each column of data, you can create a formula that sums the values to give you a quarterly total. And for each row of regional data, you can create a formula that sums the results to give you a regional total.

## Option 2: Quarterly Sales by Region

The data should guide your decisions about the best way to lay out a workbook.



The screenshot shows an Excel spreadsheet titled "Quarterly Sales by Region - Excel". The spreadsheet contains a table with the following data:

Region	Q1	Q2	Q3	Q4	Annual Sales
North	\$ 187,261	\$ 448,977	\$ 193,287	\$ 304,981	\$ 1,139,607
East	\$ 198,449	\$ 320,640	\$ 287,925	\$ 335,402	\$ 1,147,418
West	\$ 477,244	\$ 431,670	\$ 139,384	\$ 156,653	\$ 1,209,954
South	\$ 302,914	\$ 1,064,542	\$ 112,815	\$ 385,057	\$ 1,870,332
International	\$ 338,468	\$ 107,148	\$ 423,480	\$ 113,123	\$ 987,224
<b>Quarterly Total</b>	<b>\$1,504,436</b>	<b>\$2,372,977</b>	<b>\$1,156,891</b>	<b>\$1,295,216</b>	<b>\$ 6,354,535</b>

If your worksheet includes an area where the user enters values to be used in Excel calculations, position those input cells in a prominent location—usually near the top of the worksheet. Apply formatting that prompts the user for entries.

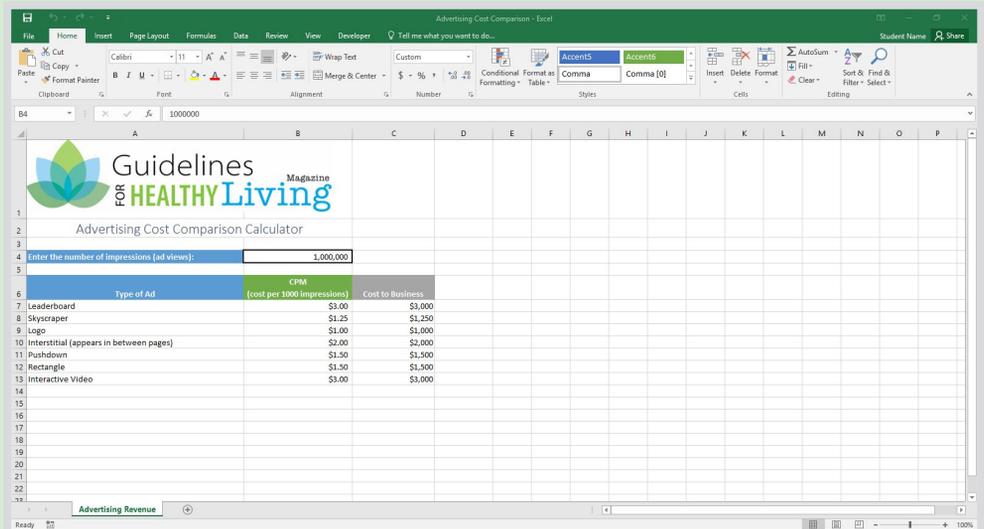
In Excel, you can use business logos, shapes, and other graphics to enhance the appearance of your worksheets. Excel can also convey your worksheet data graphically in a chart. Charted data helps you spot trends and abnormalities, which can help you make better business decisions. For example,

if sales for a particular region lag far behind other region's sales, a chart can help you quickly identify the trend.

When planning a worksheet, keep in mind your audience's expectations as well as industry standards. For example, in the financial industry, professionals follow accepted conventions and, in some cases, legal requirements when they design reports such as profit and loss statements, balance sheets, and loan payment tables.

If a worksheet includes one or more input cells, position them near the top of the worksheet or on a separate sheet.

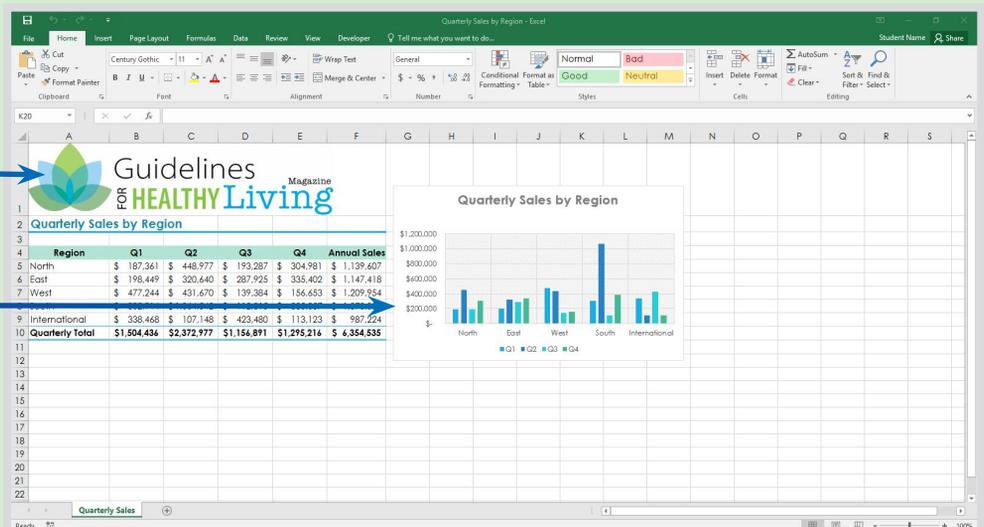
### Input Cells



### A Logo and a Chart

A logo enhances the appearance of a worksheet.

A chart conveys data graphically, so you can easily spot trends and abnormalities.



# Chapter 1

## Creating an Excel Workbook



Precheck

*Check your understanding of the skills and features covered in this chapter.*

Excel is a spreadsheet program. Each Excel file is called a *workbook*. A workbook is divided into worksheets, and each worksheet is divided into cells so that you can organize data in a table-like format and perform calculations on that data. In this chapter, you learn how to enter data and navigate in Excel.

To move from one piece of data to another, you move from cell to cell in a worksheet. Because you will be dealing with different types of data—numbers, text, and dates—you will learn how to enter each type of data to ensure that your calculations work. You will also learn about tools and tricks to help you out, such as automatically filling entries, quickly adding rows and columns, and checking the spelling of cell contents.

Rather than setting up each Excel spreadsheet as a single and lengthy page of data, you can organize data on multiple worksheets. Using multiple worksheets allows you to group like kinds of data on their own sheets and makes navigating your data easier. If you have sales data for different years, for example, you can track each year's data on a separate sheet in a single workbook. You can add sheets to a workbook and name and rename sheets as needed so that your data is easy to find and work with. Finally, in this chapter, you will learn how to add headers and footers, and to set up and print a worksheet.

### Skills You Learn

- 1 Understand worksheet and workbook structure
- 2 Use cell references
- 3 Enter text, values, and dates
- 4 Use the Auto Fill feature
- 5 Use the spelling checker
- 6 Insert and delete columns and rows
- 7 Add, rename, move, and delete worksheets
- 8 Insert headers and footers
- 9 Explore options for printing



If you are a SNAP user, go to your [SNAP Assignments page](#) to complete the Precheck, Tutorials, and Recheck.

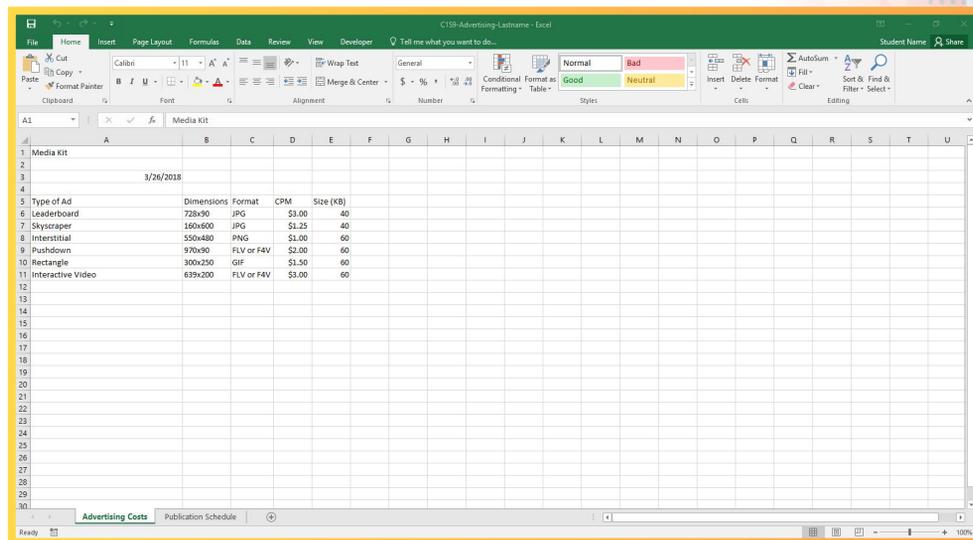
## Files You Need

For these skills, you do not need any student data files.

## What You Create

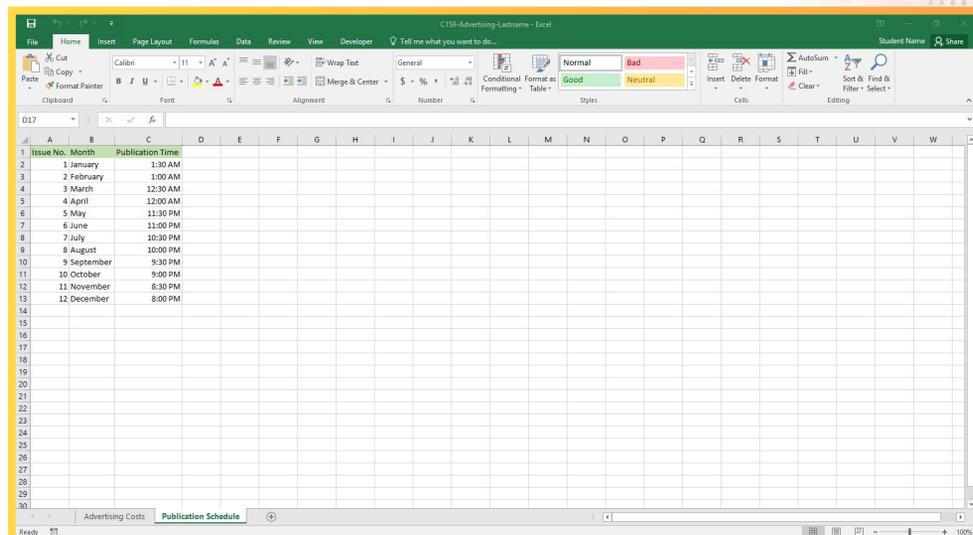
You are continuing your work for *Guidelines for Healthy Living Magazine*, an online magazine that provides up-to-date information on nutrition and fitness along with tips for living a healthy lifestyle. The magazine generates revenue by selling advertising. In this chapter, you produce an Excel workbook containing information about the types of ads businesses can place in your magazine, the cost of purchasing each type of ad, and a publication schedule to help purchasers plan their advertising campaigns.

### Advertising Costs



Type of Ad	Dimensions	Format	CPM	Size (KB)
Leaderboard	728x90	JPG	\$3.00	40
Skyscraper	160x600	JPG	\$1.25	40
Interstitial	550x480	PNG	\$1.00	60
Pushdown	970x90	FLV or F4V	\$2.00	60
Rectangle	300x250	GIF	\$1.50	60
Interactive Video	639x200	FLV or F4V	\$3.00	60

### Publication Schedule



Issue No.	Month	Publication Time
1	January	1:30 AM
2	February	1:00 AM
3	March	12:30 AM
4	April	12:00 AM
5	May	11:30 PM
6	June	11:00 PM
7	July	10:30 PM
8	August	10:00 PM
9	September	9:30 PM
10	October	9:00 PM
11	November	8:30 PM
12	December	8:00 PM



Completed  
Skill Preview

## Skill 1 Understand Worksheet and Workbook Structure

### Use Your Touchscreen

To turn on Touch Mode and place the Touch/Mouse Mode button on the Quick Access Toolbar: tap the More button on the Quick Access Toolbar and then tap the *Touch/Mouse Mode* option in the drop-down list.



Tutorial

► **Tip** To open Excel, type *excel* in the search box on the Windows taskbar and then click *Excel 2016 Desktop app* in the search results list.

► **Tip** Only one sheet can be active at any given time. The active sheet is shown with its name underlined in its sheet tab.

► **Tip** The active cell is highlighted with a green border.

► **Tip** Notice that scrolling does not change which cell is active.

An Excel file is called a *workbook*. When you start Excel, you can create a blank workbook or select a workbook template. A blank workbook contains one worksheet. A *worksheet*, or *sheet*, is like a page in a notebook. You can add worksheets to your workbook to keep your data organized.

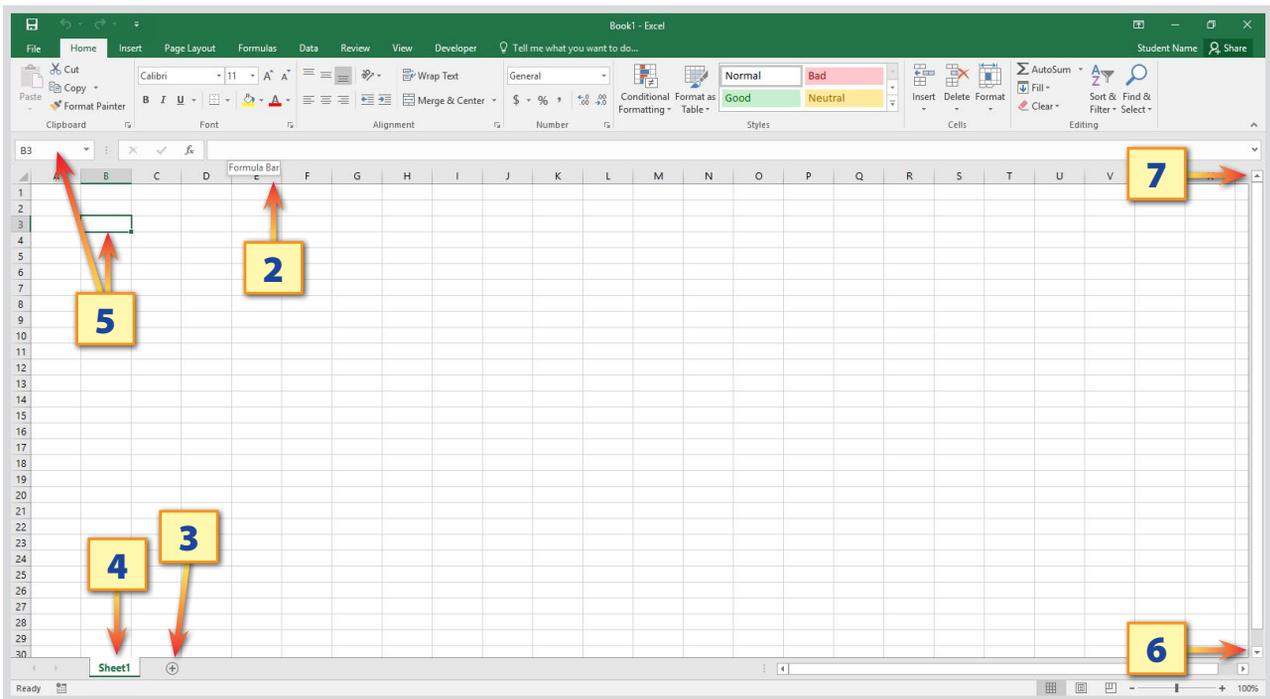
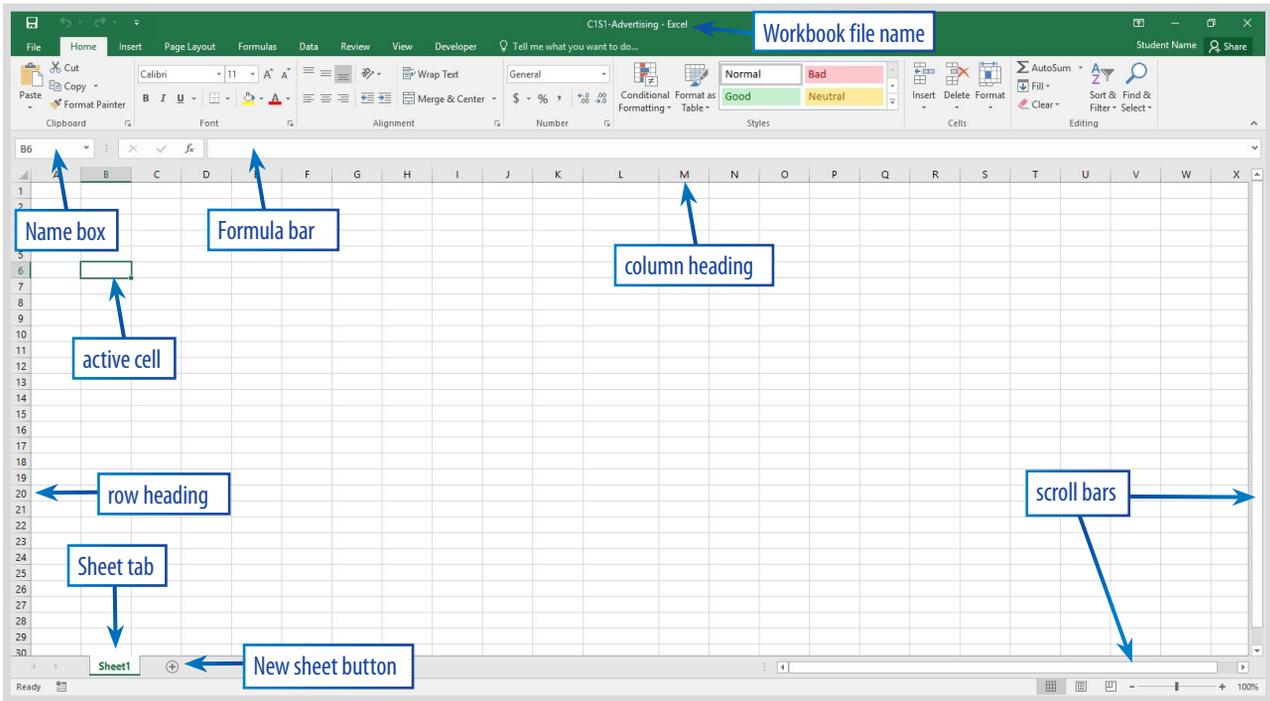
The capital letters across the top of the worksheet are column headings. Each *column heading* identifies the column below it. The numbers down the left side are row headings. Each *row heading* identifies the row to its right. The intersection of each row and column is a *cell*, into which you

can type an entry. An *entry* can be a data value such as name, number, or date, or a *formula* that instructs Excel to perform a calculation. As you work, a heavy green border appears around the *active cell*, which is the cell you have selected by clicking it or navigating to it using the keyboard. The active cell is also sometimes called the current cell. You can only make entries in the active cell.

After you have made cell entries, you can use the *Formula bar*, located above the column headings, to view and work with the entered data and modify individual cells or a range of cells.



- 1 Open the Excel application on your computer and then click the *Blank workbook* option in the backstage area. Save the new, blank file as **C1S1-Advertising** in the Unit 4 working folder on your storage medium.
- 2 Move the mouse pointer over the Formula bar. A ScreenTip that reads *Formula Bar* appears to identify that screen element.
- 3 Click the New sheet button to add a worksheet (Sheet2) to the workbook and make it active.
- 4 Click the Sheet1 sheet tab to make Sheet1 active.
- 5 Click cell B3 (the cell in column B of row 3) to make it active. Notice that the Name box displays *B3*.
- 6 Click the down arrow button on the vertical scroll bar to move down the worksheet.
- 7 Click the up arrow button on the vertical scroll bar to move up the worksheet.



**More** →

### 8 **Shortcut**

Make A1 the Active Cell  
Ctrl + Home

### 11 **Another Way**

Use the Click, Shift-Click method to select a range: click the upper left cell and hold down the Shift key as you click the lower right cell.

### 11 **Another Way**

Point to the upper left cell, press and hold down the left mouse button, drag over the range to the lower right cell, and then release the mouse button.

8 Click cell A1 to make it active.

9 Press the Down Arrow key five times. Cell A6 is now the active cell.

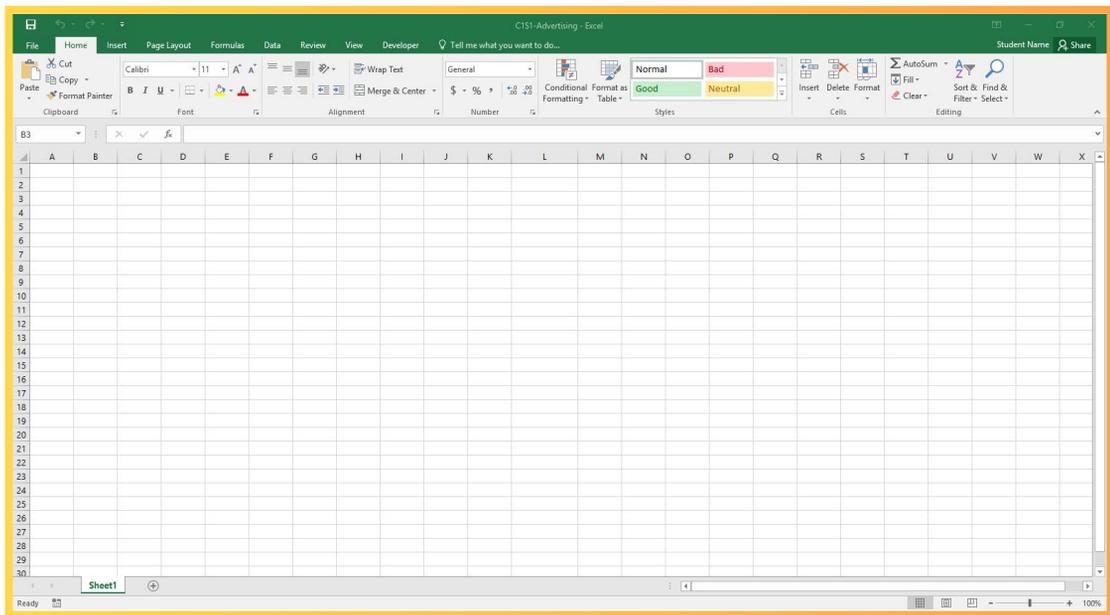
10 Press the Right Arrow key five times. Cell F6 is now the active cell.

11 Press and hold down the Shift key, and then press the Down Arrow key three times and the Right Arrow two times to select the range F6 through H9.

12 Click cell A1 to make it active.

13 Click the Save button on the Quick Access Toolbar to save the file.

## Completed Skill 1



Completed  
Skill Preview

### Use Your Touchscreen

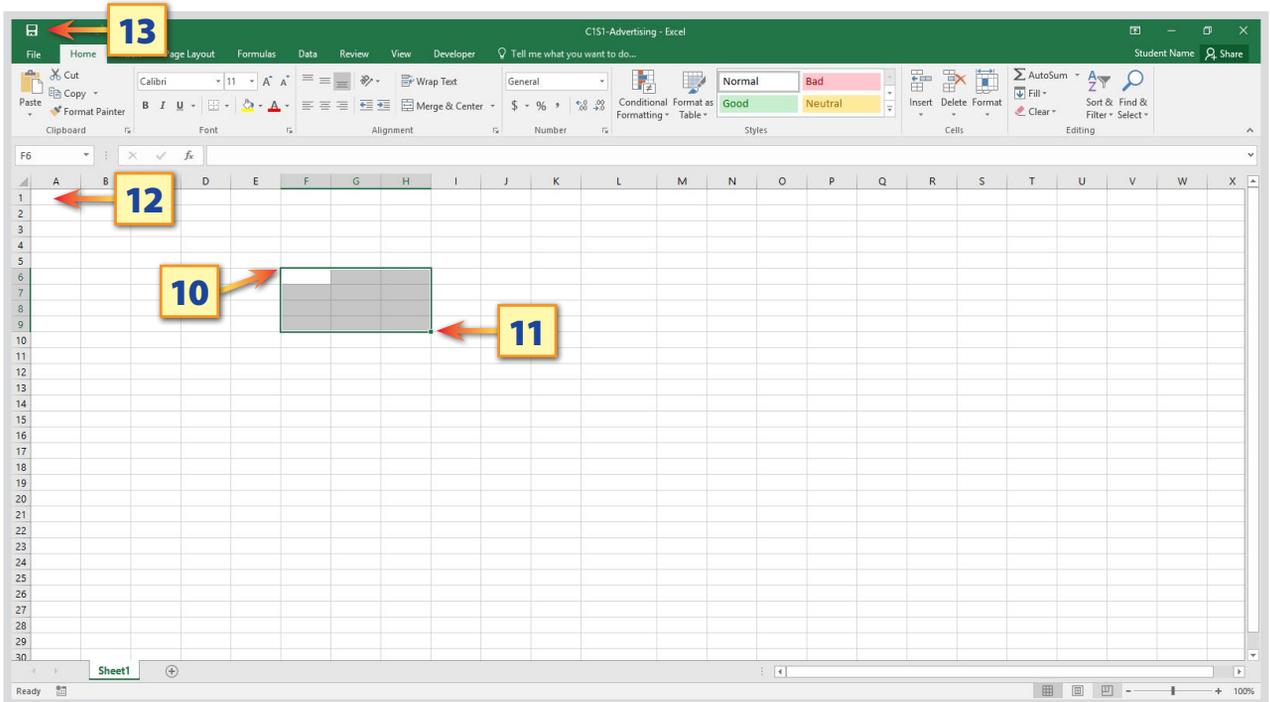
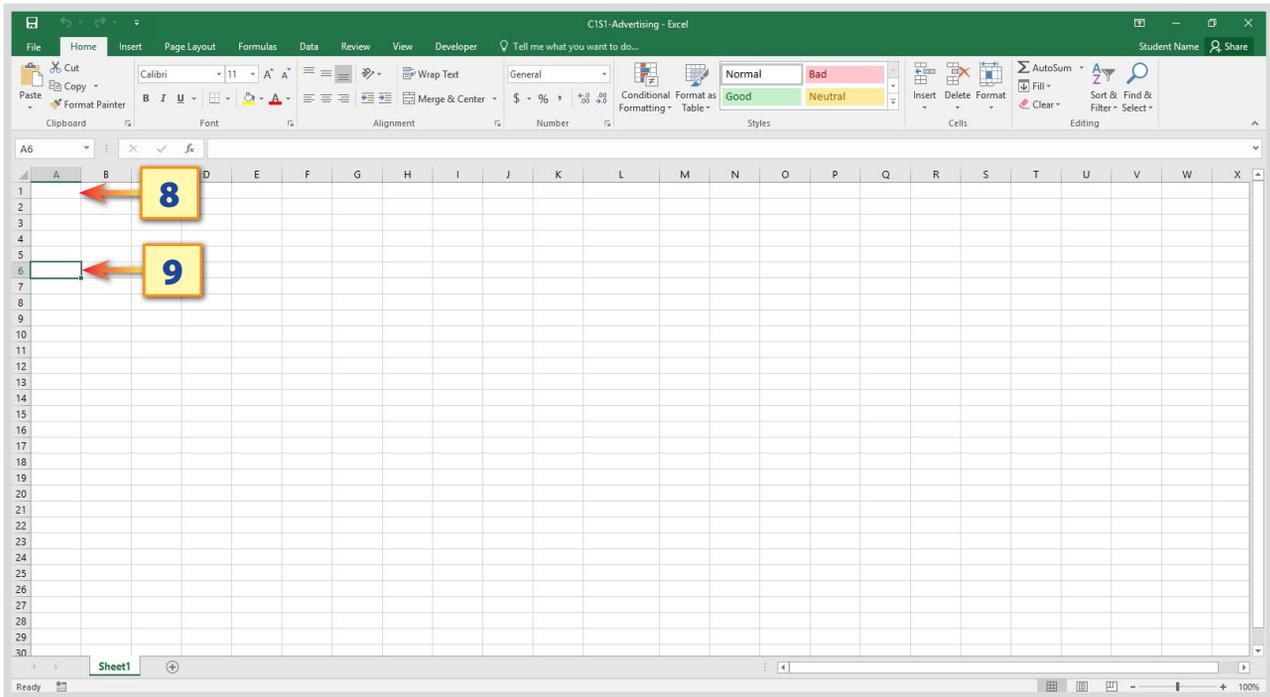
To optimize spacing between commands, tap the Touch/Mouse Mode button and then tap the *Touch* option in the drop-down list.

## Taking It Further

### Jumping to a Cell

You can jump directly to a cell using the Go To dialog box. To open the dialog box, press the F5 key or click the Find & Select button in the Editing group on the Home tab and then click

the *Go To* option. In the dialog box, you can type a cell address in the *Reference* box and then click the OK button to jump to that cell.



## Skill 2 Use Cell References

You can identify each cell by its column letter and row number, a combination that is called its *cell address*, *cell reference*, or *cell name*. For example, the cell in the first column of the first row is cell A1. The cell in the eighth column of the tenth row is cell H10.

A *range* of cells has an address too. Identify a range by the addresses of its upper left and lower right cells, separating the addresses with a colon. For example, D5:J15 is the range that spans from cell D5 at the upper left to

cell J15 at the lower right. A range can span a single row, such as when you select several column titles, perhaps A3:F3. A range also can fall within a single column, as in C3:C10.

You can type a cell or range reference in the *Name box* to the left of the Formula bar to go to that location. Understanding cell and range addresses is important when building formulas, a skill you will learn about in Unit 4, Chapter 2.

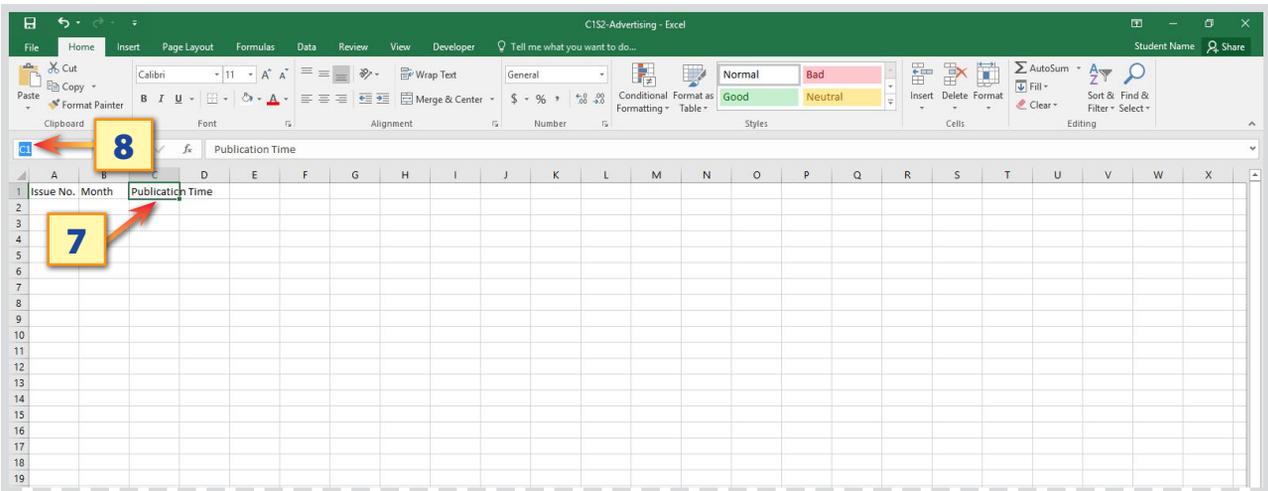
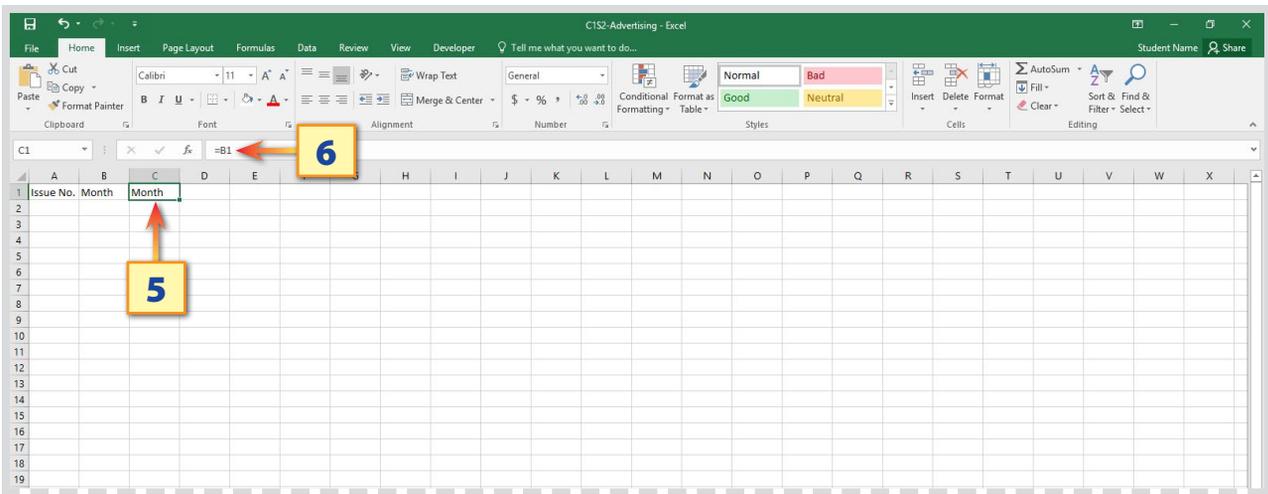
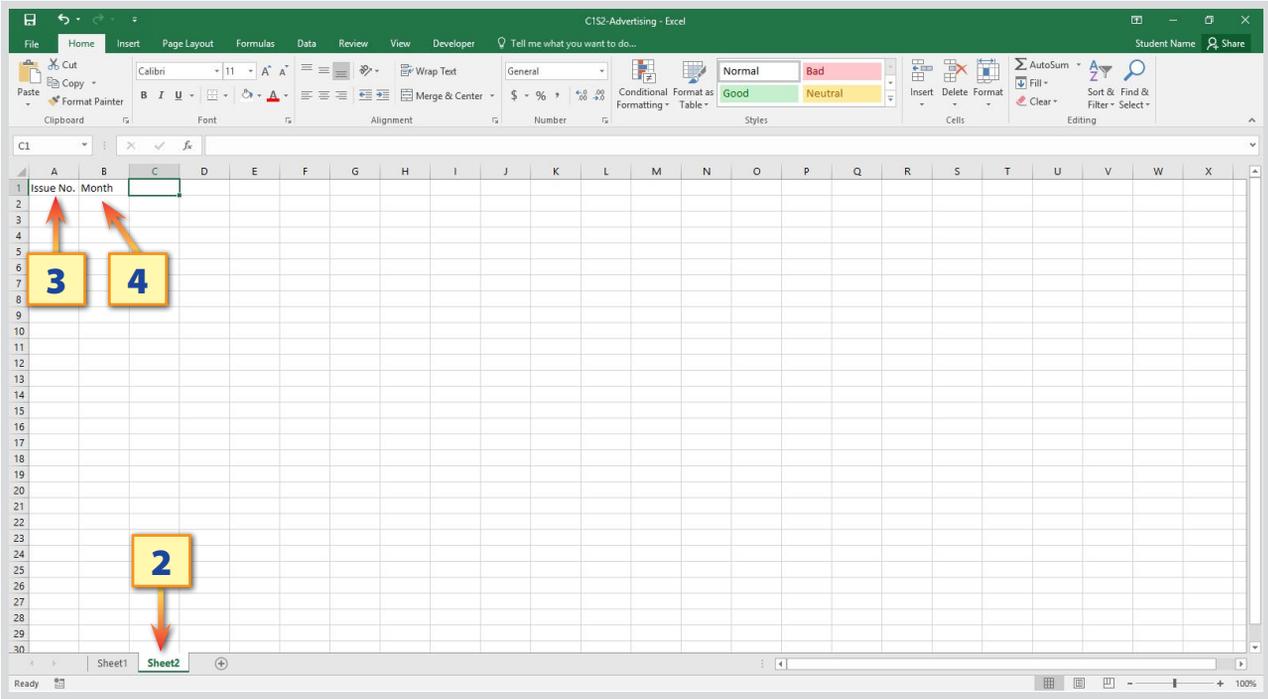


Tutorial

- 1** If it is not already open, open **C1S1-Advertising**, the file you saved in the previous skill, and save it as **C1S2-Advertising**.
- 2** Click the Sheet2 sheet tab to make Sheet2 active.
- 3** With cell A1 active, type **Issue No.**, and then press the Tab key to make cell B1 active.
- 4** Type **Month** and then press the Tab key to make cell C1 active.
- 5** Type **=B1** and then press Ctrl + Enter. This action finishes entering the text and keeps the cell active.
- 6** Look in the Formula bar and verify that it displays the entry you made in cell C1.
- 7** With cell C1 still active, type **Publication Time** and then press Ctrl + Enter to change the cell entry.
- 8** Click in the Name box to select its contents.

► **Tip** The entire contents of a data cell will display on the worksheet even if it is too long to fit in the cell, as long as the cell immediately to the right is empty. If the cell immediately to the right contains data, the overflow cell content will be hidden.

► **Tip** The entire contents of a cell will always display in the Formula bar.



[More](#)

### 9 Another Way

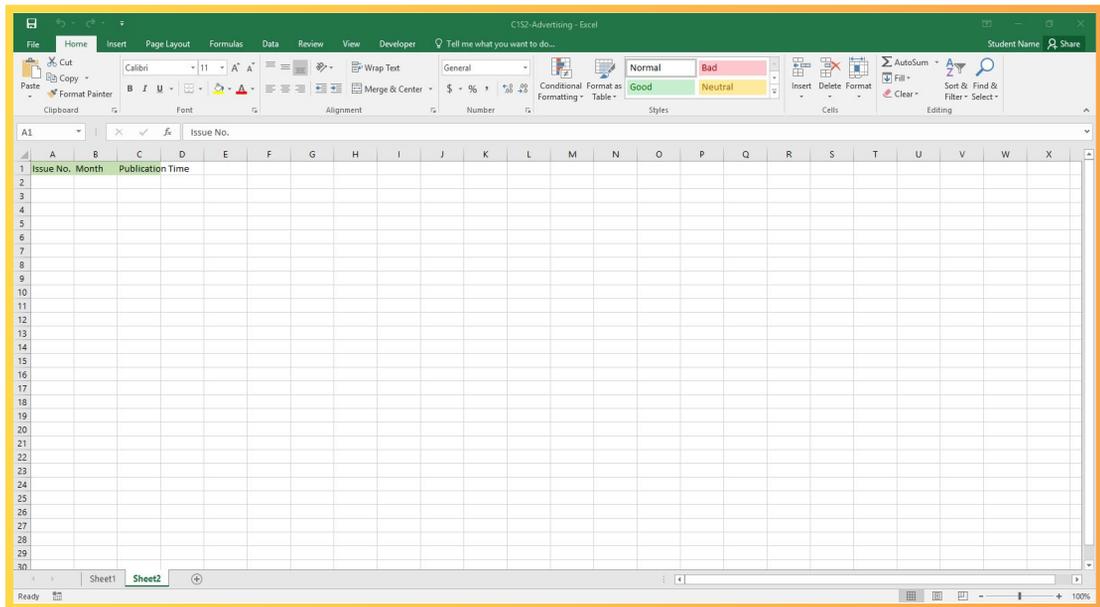
Press F5 to open the Go To dialog box, type G7 in the Reference box, and then click the OK button.

### Use Your Touchscreen

To select the range A1:C1 in Step 11, tap cell A1 and then drag the selection handle to cell C1.

- 9 Type G7 and then press Enter. Cell G7 is selected.
- 10 Click in the Name box.
- 11 Type A1:C1 and then press Enter. The range of cells A1 through C1 is selected.
- 12 On the Home tab, click the Fill Color arrow in the Font group and then click the *Green, Accent 6, Lighter 60%* option in the *Theme Colors* section of the drop-down gallery.
- 13 Click cell A1 to make it active.
- 14 Save the file.

## Completed Skill 2



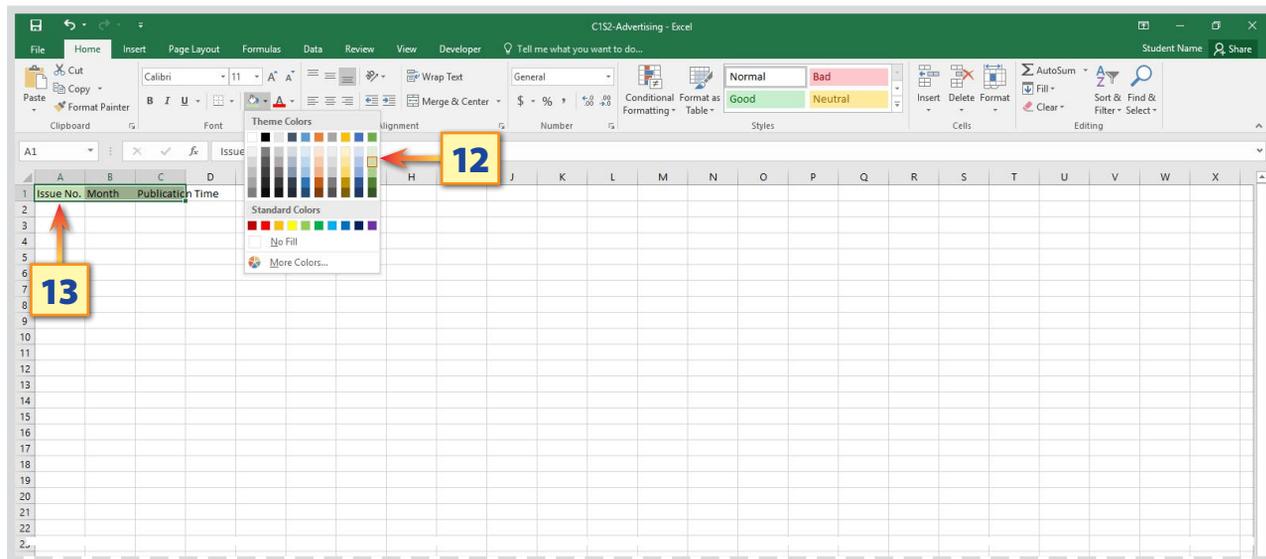
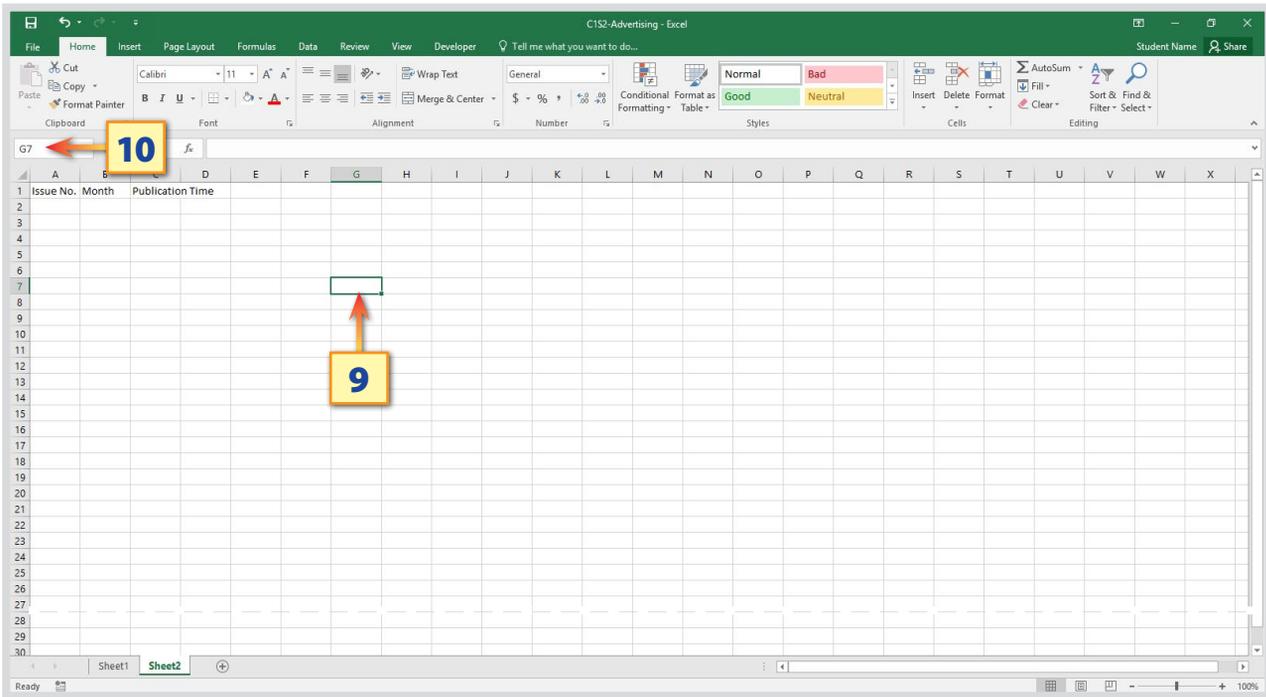
Completed Skill Preview

## Taking It Further

### Making a Quick Analysis

When you select a range of cells that contain data, the Quick Analysis button () appears at the bottom right of the selected range. Click the Quick Analysis button to display a gallery of tabs containing options for analyzing data.

For example, the Charts tab contains an option for displaying the selected data in a chart. The Formatting tab options can be used to quickly determine high and low values or to highlight values greater than a specified value.



## Taking It Further

### Exploring a Worksheet

A worksheet contains a fixed number of columns and rows. The number of usable cells depends on the amount of RAM available to your computer. Cells within a worksheet can contain numbers and dates in various formats, text, or formulas using arithmetic operators or functions.

Check to see how many columns your Excel worksheet has by pressing the End key and then pressing the Right Arrow key. Press the End key and then press the Down Arrow key to see the number of rows in your worksheet. Press Ctrl + Home to return cell A1.

## Skill 3 Enter Text, Values, and Dates

Each cell in an Excel worksheet can hold a single entry. That entry can be text, a date, a value, or a formula that calculates a result.

A text entry can contain any combination of letters, numbers, or symbols that you can type on your keyboard. *Qtr 1*, *Sales*, and *Region#* are examples of text entries. By default, Excel aligns text entries at the left side of the cell. This is true even of phone numbers because they usually are entered with hyphens or other characters and are treated as text.

Numeric entries contain numbers, including whole numbers (e.g., 15) and

decimal values (e.g., 2.5). You can enter numbers that have a certain characteristic, such as a currency symbol or a specified number of decimal places. Excel aligns number entries at the right side of the cell.

You enter dates in typical date formats, with hyphens (4-1-18) or slashes (4/1/18). By default, if you enter 4/1/18 or 4-1-18, Excel displays 4/1/2018 in the cell. After you type entries in a column, you may need to resize the column. Double-clicking the divider line between column headings resizes the column on the left to fit its longest entry.



Tutorial

► **Tip** Press Enter to move the active cell down one cell. Press Tab to move the active cell to the right one cell.

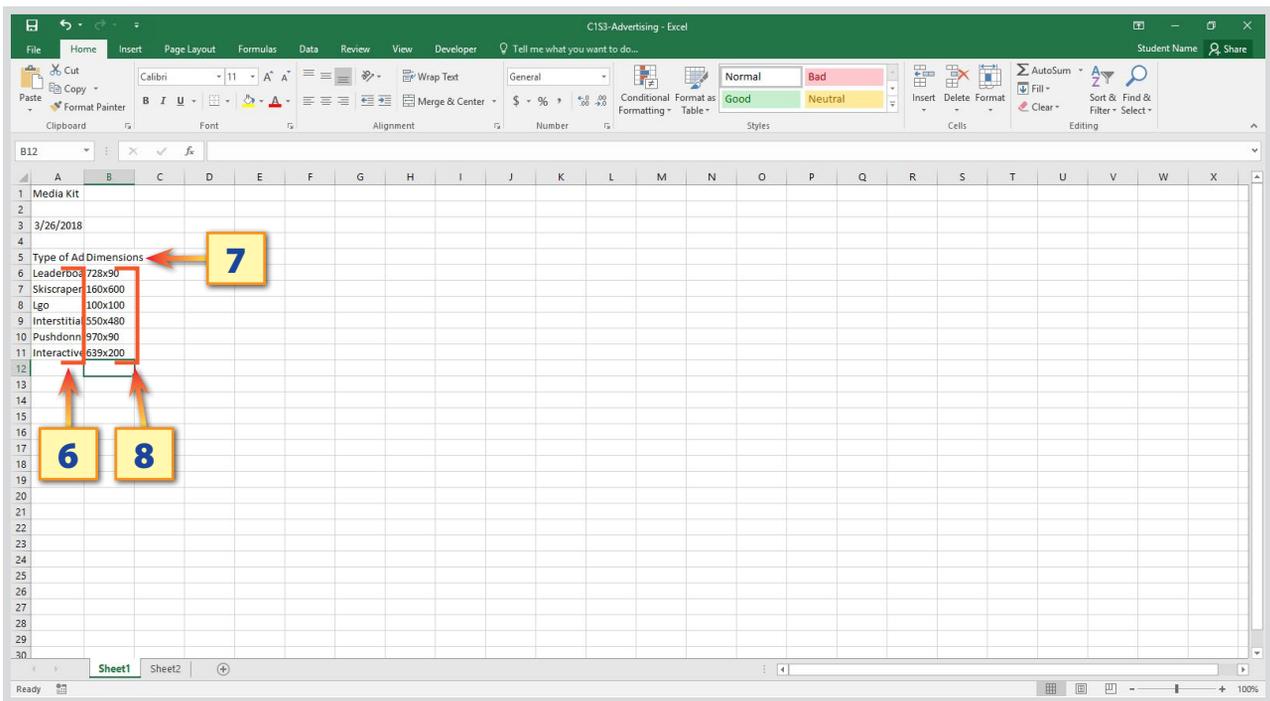
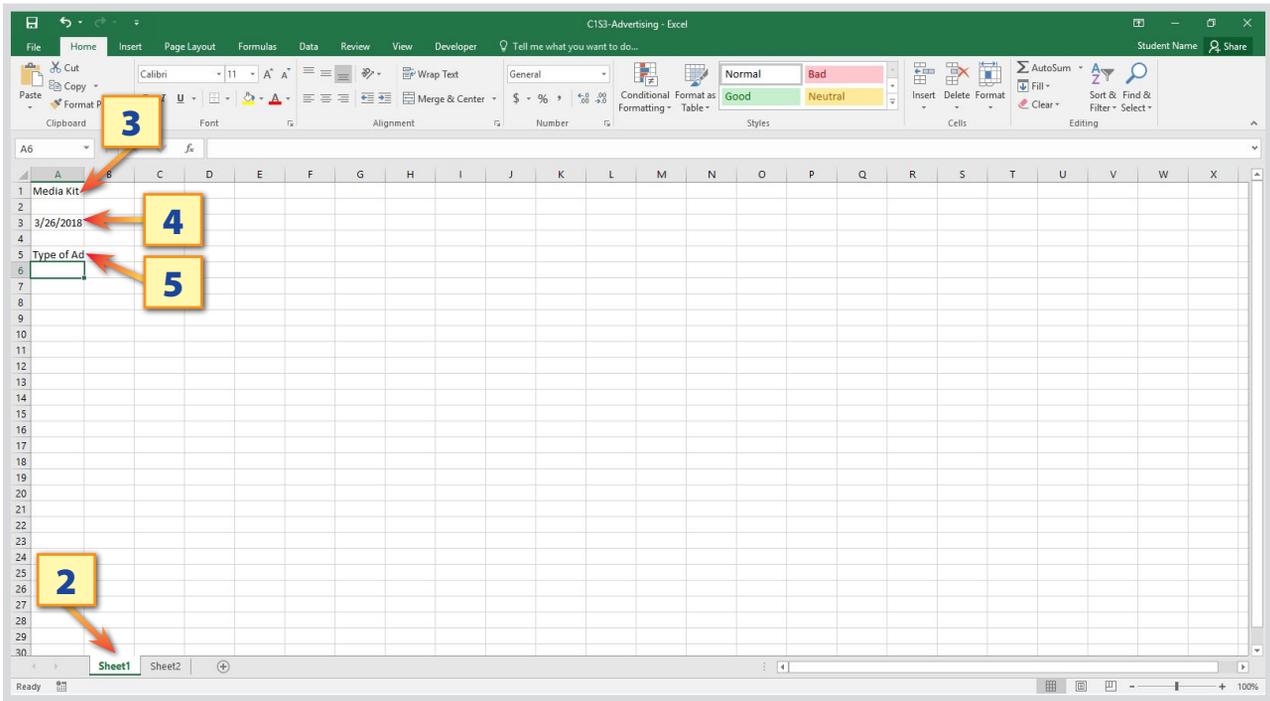
4 **Another Way**  
Press the Down Arrow key to finish a cell entry and move down one cell, the Right or Left Arrow key to move one cell to the right or left, or the Up Arrow key to move up one cell.

► **Tip** In Step 4, Excel automatically reformats the date to display as 3/26/2018.

► **Tip** If you type an entry in an incorrect cell, click the cell and then press the Delete key to remove the entry.

► **Tip** If you type an incorrect value in a cell, click the cell, edit the value in the Formula bar, and press Enter.

- 1 If it is not already open, open **C1S2-Advertising**, the file you saved in the previous skill, and save it as **C1S3-Advertising**.
- 2 Click the Sheet1 sheet tab to make Sheet1 active.
- 3 Make cell A1 active, type **Media Kit**, and then press Enter.
- 4 Make cell A3 active, type **3-26-18**, and then press Enter.
- 5 Make cell A5 active, type **Type of Ad**, and then press Enter.
- 6 Type the following entries exactly as shown in the range A6:A11. You will correct mistakes later!  
**Leaderboard** [Enter]  
**Skiscraper** [Enter]  
**Lgo** [Enter]  
**Interstitial** [Enter]  
**Pushdonn** [Enter]  
**Interactive Video** [Enter]
- 7 Make cell B5 active, type **Dimensions**, and then press Enter.
- 8 Type the following entries in the range B6:B11:  
**728x90** [Enter]  
**160x600** [Enter]  
**100x100** [Enter]  
**550x480** [Enter]  
**970x90** [Enter]  
**639x200** [Enter]



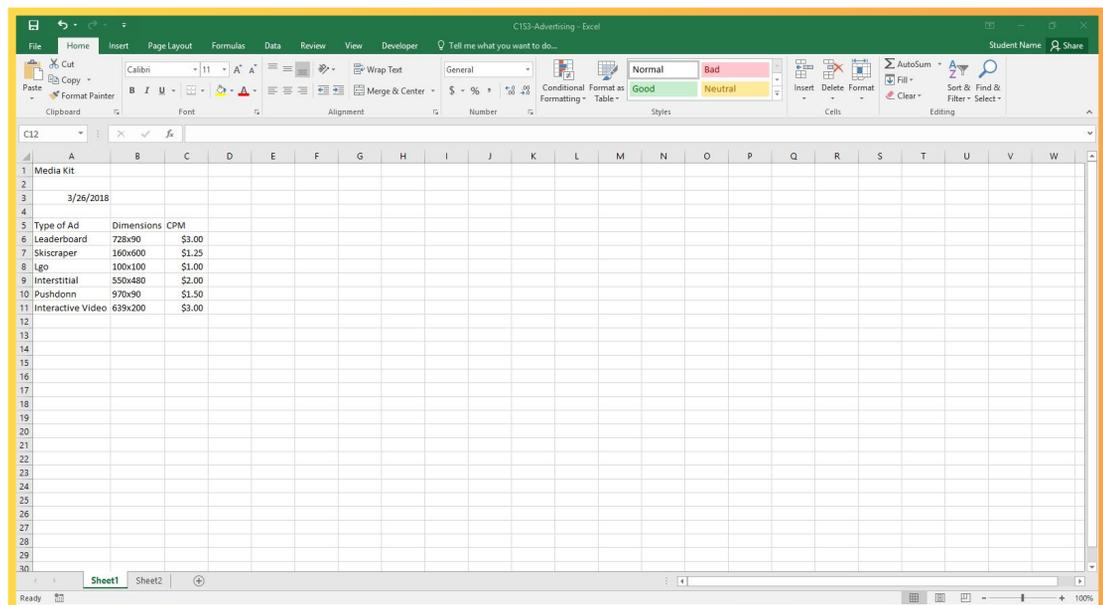
More →

► **Tip** CPM stands for “cost per thousand impressions” and is a measurement of how much money it takes to reach 1,000 readers.

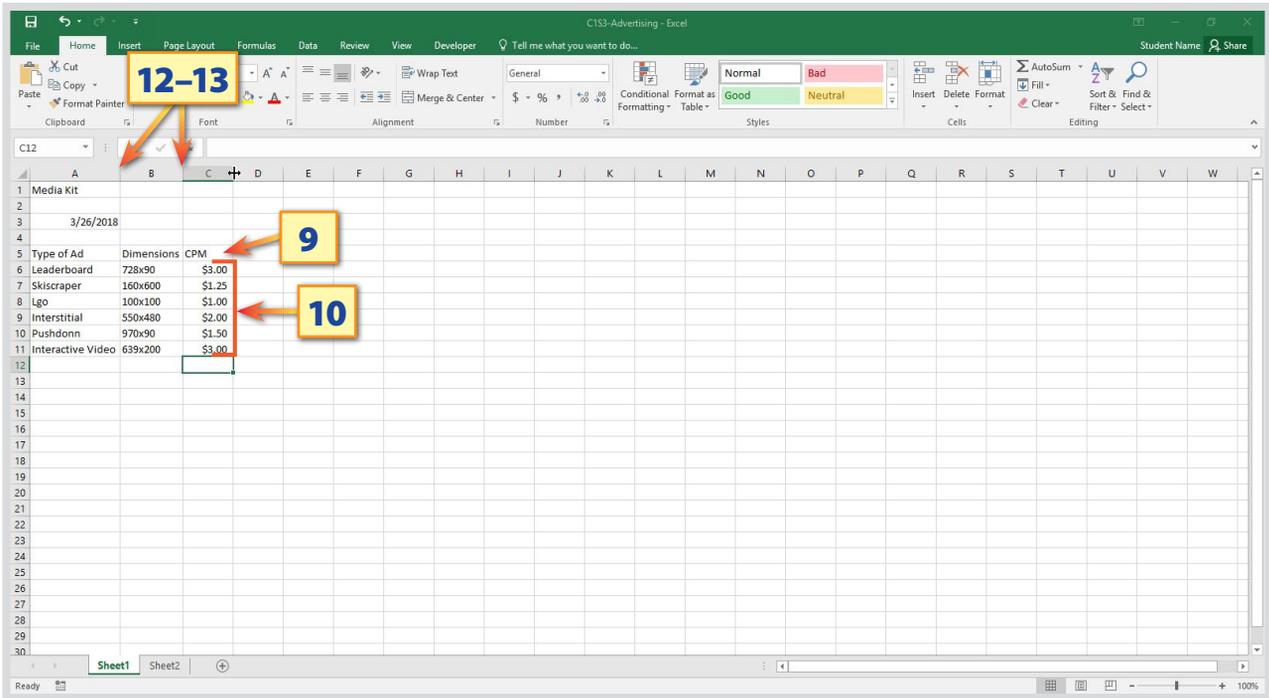
► **Tip** When you type a number with a dollar sign in a cell, Excel automatically applies currency formatting to the cell. In Chapter 3, you will learn to select a cell or cell range and then apply a number format to the selection.

- 9** Make cell C5 active, type **CPM**, and then press Enter.
- 10** Type the following entries in the range C6:C11:  
\$3.00 [Enter]  
\$1.25 [Enter]  
\$1.00 [Enter]  
\$2.00 [Enter]  
\$1.50 [Enter]  
\$3.00 [Enter]
- 11** Notice that the ad type entries in column A are cut off. You can resize column A to fit the length of its longest entry. Move the mouse pointer over the divider line between the column A and column B headings until it turns into a left-and-right-pointing arrow.
- 12** Double-click the divider line between the column A and column B headings to resize column A.
- 13** Double-click the divider line between the column B and column C headings to resize column B.
- 14** Save the file.

### Completed Skill 3



Completed  
Skill Preview



## Taking It Further

### Removing ### from a Cell

In certain situations, such as when you enter a very large number in a cell, Excel displays a series of pound signs (###) rather than the entry itself. These signs indicate that the numeric entry is too wide to display in the cell. This feature is designed to keep

readers of the data from being misled by seeing only a portion of a number. Increase the column width for the cell contents to display properly. You will learn more about sizing cells in Chapter 3, Skill 3.

## Skill 4 Use the Auto Fill Feature

The Auto Fill and Flash Fill features in Excel 2016 can help you save time when entering data. *Auto Fill* enables you to either copy an entry across a row or down a column or create a series of entries across a row or down a column. For example, if you type *Jan* in a cell and use the Auto Fill feature, Excel enters the following months: *Feb, Mar, Apr*, and so on. Auto Fill can also be used to fill the days of the week or common business entries such as *Qtr 1, Qtr 2*, and so on.

If you use Auto Fill to enter a number or other entry that Excel does not recognize as part of a series, Excel simply copies the entry to the area you are filling. You can create your own series by entering the first two or three values in the series and then using Auto Fill from there.

*Flash Fill* looks for patterns in your data and then automatically enters the rest of your data based on the pattern.



Tutorial

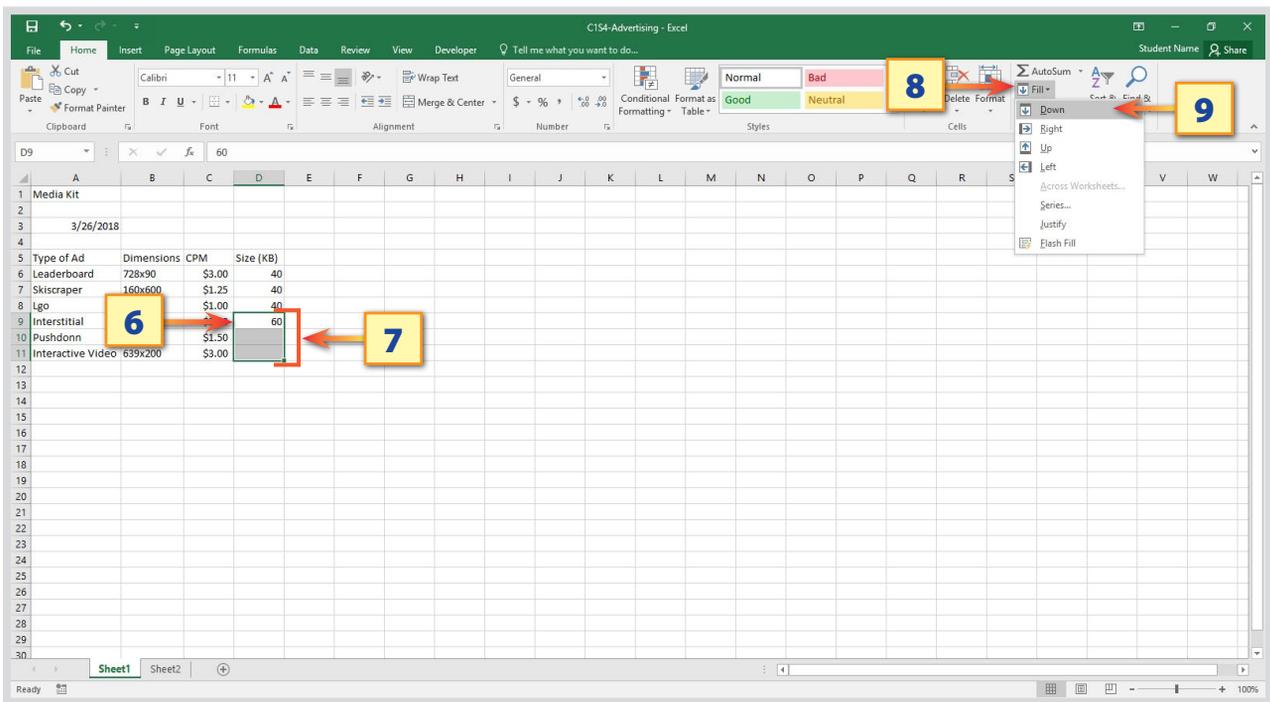
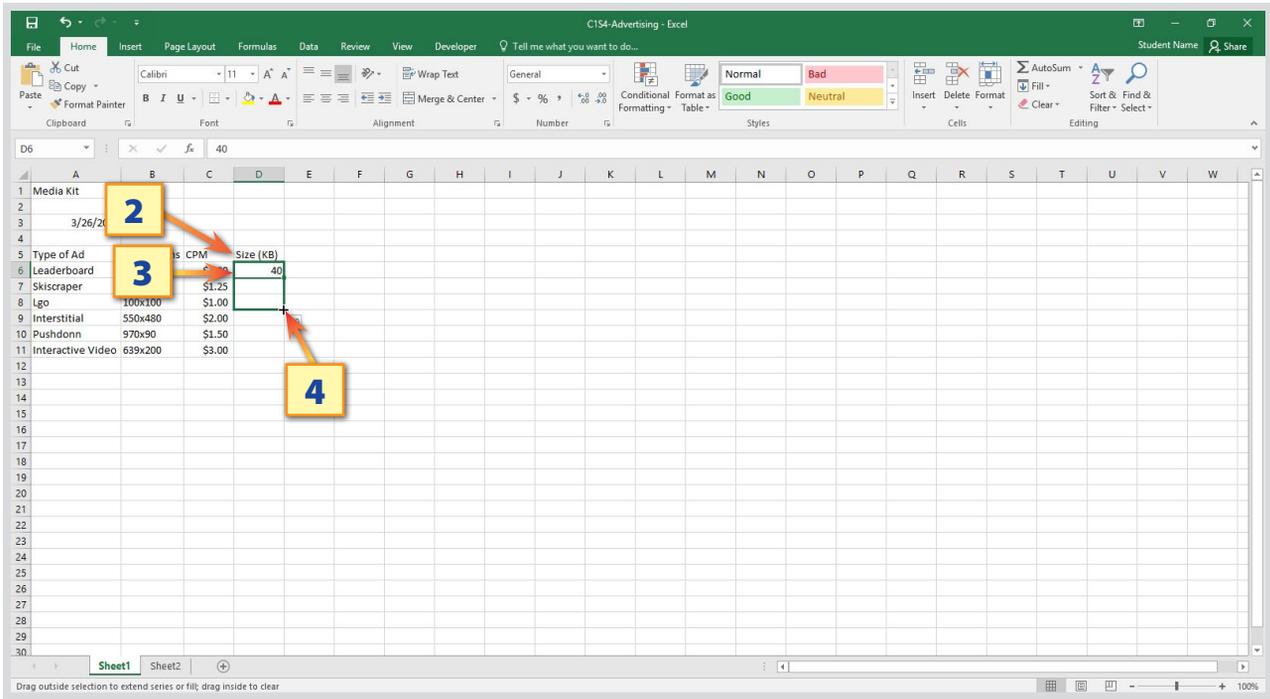
► **Tip** Pressing Ctrl + Enter finishes an entry without moving the active cell to another cell.

### Use Your Touchscreen

To complete Steps 4–5: Tap cell D6 and then press and hold the cell until the Mini toolbar is displayed. Tap the AutoFill button on the Mini toolbar and then drag the AutoFill button that has been added to cell D6 down to cell D8M.

### Copy an Entry

- 1 If it is not already open, open **C1S3-Advertising**, the file you saved in the previous skill, and save it as **C1S4-Advertising**.
- 2 With Sheet1 active, make cell D5 active, type **Size (KB)**, and then press Enter.
- 3 Type **40** and then press Ctrl + Enter.
- 4 Move the mouse pointer over the fill handle (which looks like a small square) in the lower right corner of cell D6. When the mouse pointer changes to a black crosshair, press and hold down the left mouse button and then drag down to cell D8. You will see a ScreenTip that reads **40**.
- 5 Release the mouse button to Auto Fill the entry from cell D6 to cells D7 and D8.
- 6 Make cell D9 active, type **60**, and then press Ctrl + Enter.
- 7 Drag over the range D9:D11 to select it.
- 8 On the Home tab, click the Fill button in the Editing group.
- 9 Click the *Down* option in the drop-down list. Excel copies the entry **60** down the selected range.



**More** →



Tutorial

## Create a Series of Entries

► **Tip** To fill a series with an increment other than 1, click the Fill button in the Editing group on the Home tab. Click the *Series* option in the drop-down list and then type an appropriate number in the Step value box.

► **Tip** You may want to remove an entry from a single cell after using Auto Fill. To do this, click the cell and then press the Delete key.

- 10** Click the Sheet2 sheet tab to make Sheet2 active.
- 11** Make cell A2 active, type **1**, and then press Ctrl + Enter.
- 12** Drag the fill handle down to cell A13. Excel copies the value **1** to cells A2:A13.
- 13** Click the Auto Fill Options button and then click the *Fill Series* option in the drop-down list. Excel fills the series from **1** to **12**.
- 14** Make cell B2 active, type **January**, and then press Ctrl + Enter.
- 15** Double-click the fill handle to fill the series from *January* to *December*.
- 16** Double-click the divider line between the column B and column C headings to resize column B.
- 17** Make cell C2 active, type **1:30 AM**, and then press Enter.
- 18** Type **1:00 AM** and then press Enter. (The magazine plans to speed up production over the next year, so it is scheduling its publication time to be 30 minutes earlier each month.)
- 19** Drag over the range C2:C3 to select it.
- 20** Double-click the fill handle to fill the series from **1:30 AM** to **8:00 PM**.
- 21** Double-click the divider line between the column C and column D headings to resize column C.
- 22** Save the file.

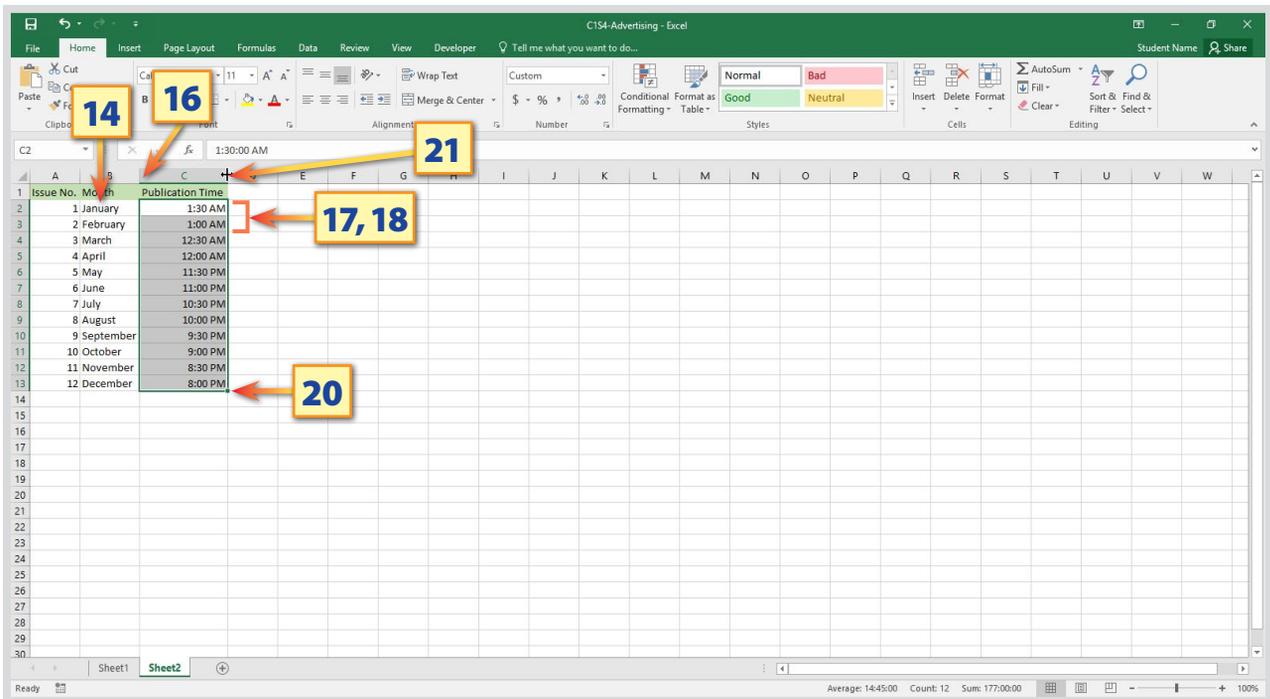
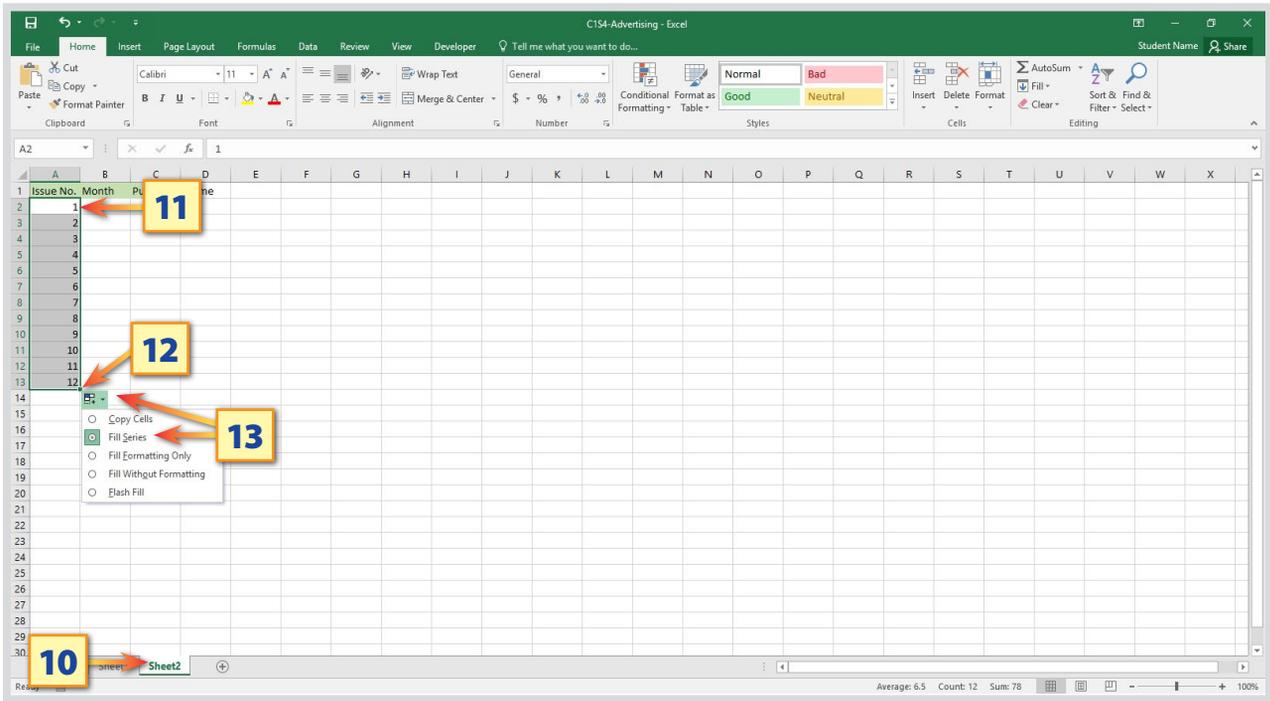
## Completed Skill 4

Issue No.	Month	Publication Time
1	January	1:30 AM
2	February	1:00 AM
3	March	12:30 AM
4	April	12:00 AM
5	May	11:30 PM
6	June	11:00 PM
7	July	10:30 PM
8	August	10:00 PM
9	September	9:30 PM
10	October	9:00 PM
11	November	8:30 PM
12	December	8:00 PM

Media Kit	Dimensions	CPM	Size (KB)	
1	3/28/2018			
5	Type of Ad	Dimensions	CPM	Size (KB)
6	Leaderboard	728x90	\$3.00	40
7	Skyscraper	160x600	\$1.25	40
8	Logo	180x100	\$3.00	40
9	Interstitial	550x480	\$2.00	60
10	Pushdown	970x90	\$1.50	60
11	Interactive Video	639x200	\$3.00	60



Completed Skill Preview



## Taking It Further

### Using Flash Fill

Excel has an automatic feature called *Flash Fill* that will save you time when entering data that is repeated in a pattern. For example, suppose you enter a list of employee email addresses in column A, and

each email address contains the employee's last name and first initial. When you start typing employee last names in column B, Excel will recognize the pattern and fill in the remaining last names in column B.

## Skill 5 Use the Spelling Checker

Spreadsheets can be filled with typos, requiring an eagle-eyed person to read closely to find and eliminate those pesky misspellings. Excel includes a feature to help you ensure that your worksheets are free of typos. The Excel spelling checker works much like the Word spelling checker, except

that it opens in a dialog box instead of a pane. There is one extra caution with using this feature in Excel: the spelling checker only reviews text entries. It cannot ensure that you have entered numbers and dates correctly, so double-check your data thoroughly!



Tutorial

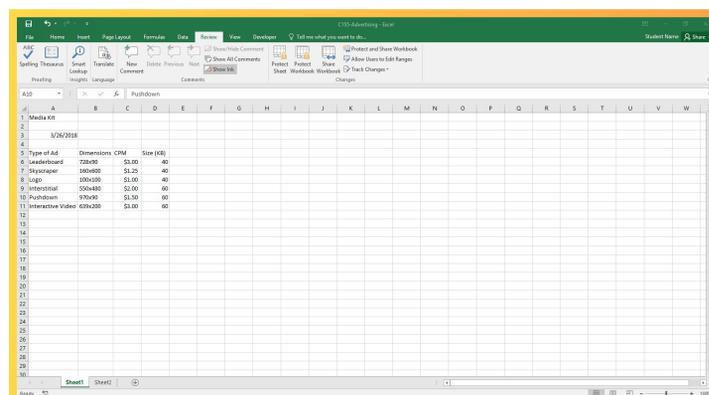
### 3-4 Shortcut

Open the Spelling Checker  
F7

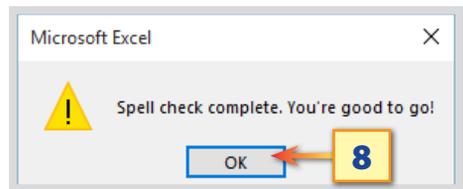
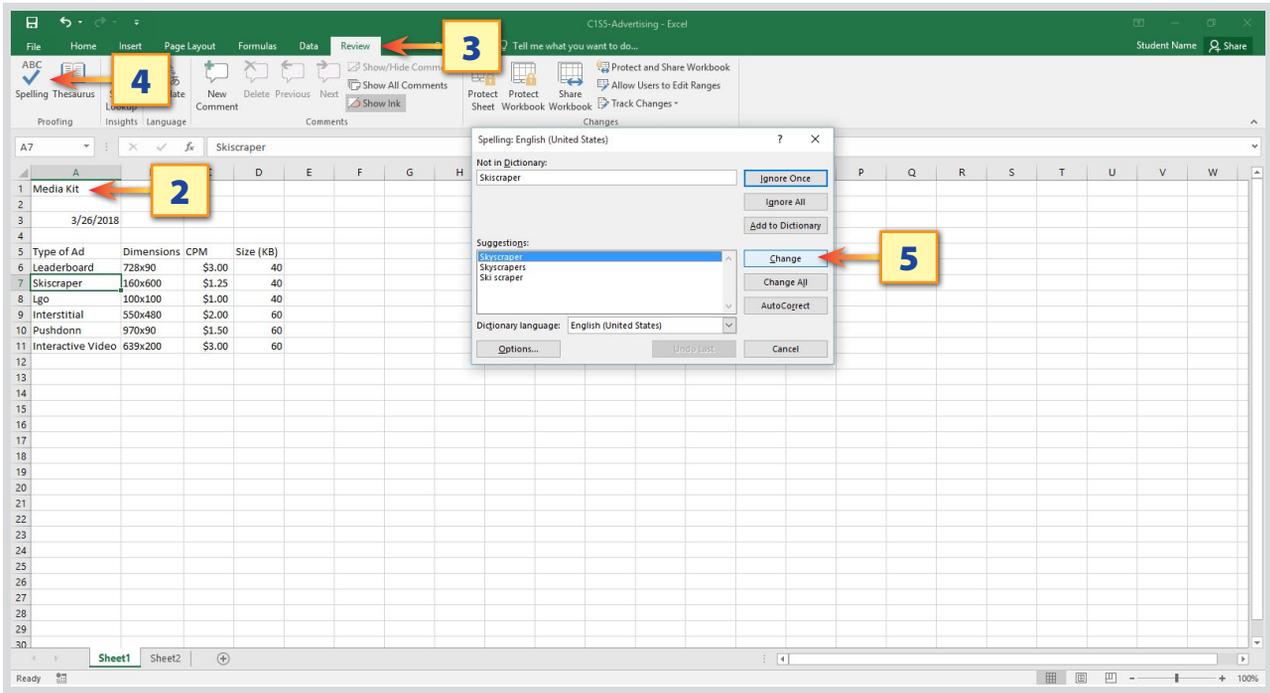
**Tip** The spelling checker starts from the active cell. When it reaches the last cell on the worksheet, it displays a message asking if you want to continue checking from the beginning of the sheet.

- 1 If it is not already open, open **C1S4-Advertising**, the file you saved in the previous skill, and save it as **C1S5-Advertising**.
- 2 With Sheet1 active, make cell A1 active.
- 3 Click the Review tab.
- 4 Click the Spelling button in the Proofing group.
- 5 The Spelling dialog box displays the first typing mistake, *Skiscraper*. The correct spelling is already selected in the *Suggestions* list box. Click the Change button to replace the misspelled word.
- 6 Click the correct spelling, *Logo*, and then click the Change button to replace the misspelled word.
- 7 Click the Change button to replace the next misspelled word with the correct spelling, *Pushdown*.
- 8 In the message box informing you the spelling check is complete, click the OK button.
- 9 Save the file.

### Completed Skill 5



Completed  
Skill Preview



## Taking It Further

### Using AutoCorrect

Excel can correct some misspellings for you as you type. Each of us has our own unique tendency to mistype certain words. For example, perhaps your last name is *Smith*, but you often mistype it as *Simth*. Excel cannot, by default, correct that mistake. However, you can customize the AutoCorrect feature so that the correction will be made. To do so, click the File tab and then click the *Options* option. Click

*Proofing* at the left side of the Excel Options dialog box and then click the AutoCorrect Options button in the right panel. In the AutoCorrect dialog box, with the AutoCorrect tab selected, type your frequently made typo (such as *Simth*) in the *Replace* box and then type the correction (*Smith* in this instance) in the *With* box. Click the Add button and then click the OK button two times.

## Skill 6 Insert and Delete Columns and Rows

You can insert and delete rows and columns to rearrange the data or make room for new data. For example, if you created a worksheet to track the value of products in your company's

inventory, you might need to add rows for new products that you add to your catalog or remove rows when products are discontinued.



Tutorial

### Insert and Delete Rows

- 1** If it is not already open, open **C1S5-Advertising**, the file you saved in the previous skill, and save it as **C1S6-Advertising**.
- 2** On Sheet1, make cell A8 active.
- 3** Click the Home tab.
- 4** Click the Delete arrow in the Cells group.
- 5** Click the *Delete Sheet Rows* option in the drop-down list. Excel removes the row immediately without displaying a warning and asking you to confirm the action.
- 6** Make cell A10 active.
- 7** Click the Insert arrow in the Cells group.
- 8** Click the *Insert Sheet Rows* option in the drop-down list.
- 9** With cell A10 active, type the following entries across the row:  
 Rectangle [Right Arrow]  
 300x250 [Right Arrow]  
 \$1.50 [Right Arrow]  
 60 [Enter]

#### 3-4 Another Way

Right-click a column or row heading and then click the *Delete* command in the pop-up menu.

► **Tip** If you delete a row by accident, click the Undo button on the Quick Access Toolbar (or press Ctrl + Z) to restore the contents of the deleted row.

#### 7-9 Another Way

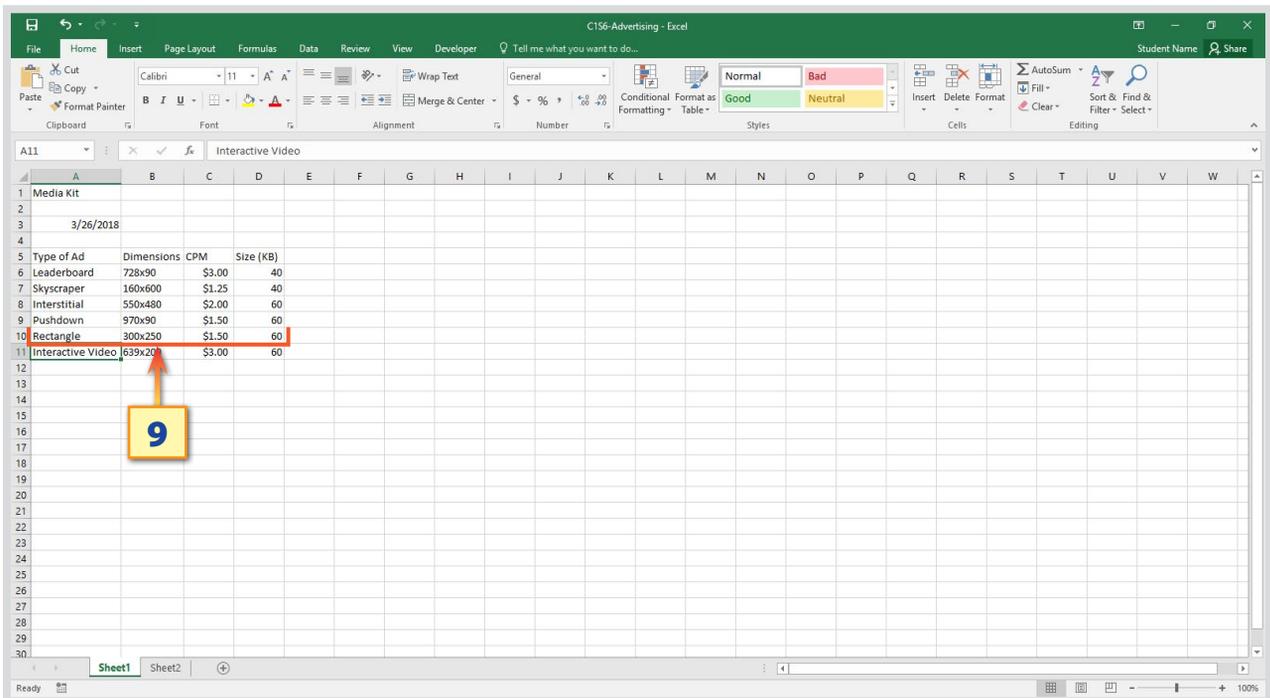
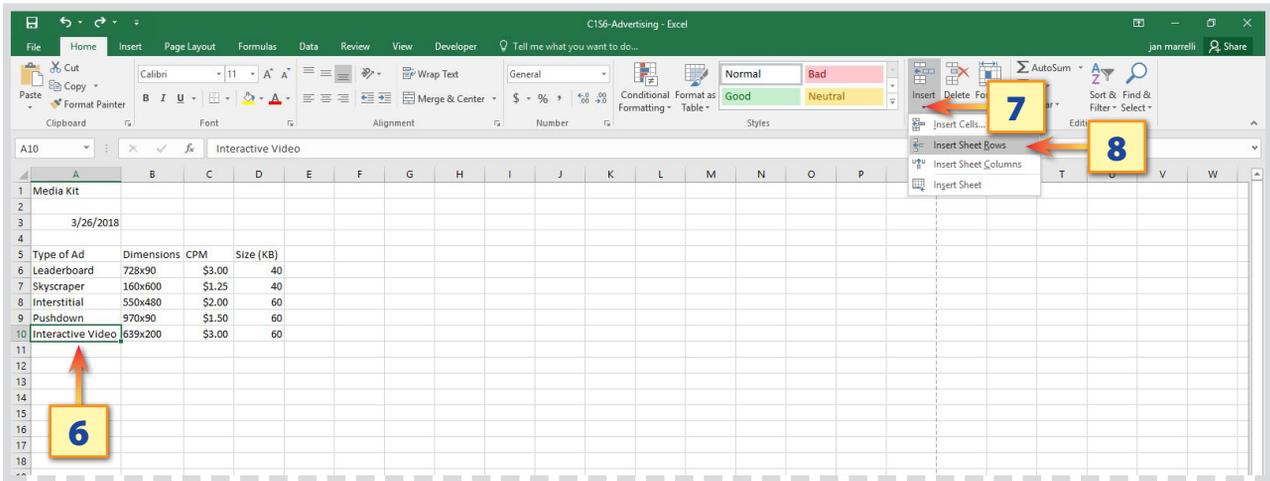
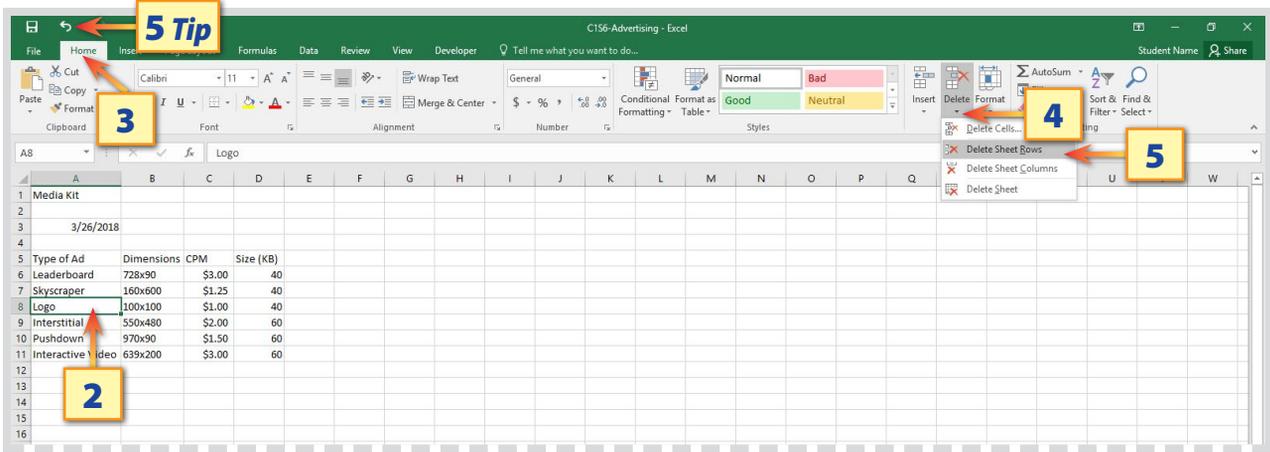
Right-click a column or row heading and then click the *Insert* command in the pop-up menu.

### Taking It Further

#### Designing Worksheets Using Rows and Columns

Rows and columns can play both functional and design roles in your worksheet. For example, when you perform calculations and certain

other activities, such as charting, you will find the actions easiest to perform when all the data is located in adjoining rows and columns.



More



## Tutorial

► **Tip** Each Excel worksheet always has the same number of rows and columns. When you insert and delete rows and columns, you are simply changing where the blank rows and columns appear in the sheet.

► **Tip** In Step 12, you will see examples of Flash Fill when you enter data in column C as this feature looks for patterns in your data and then automatically enters the rest of your data based on the pattern. This can save you time as you can press Enter to accept the entry without having to type it in its entirety.

### 10–11 Another Way

Click a cell in column C, click the Insert button in the Cells group on the Review tab, and then click the *Insert Sheet Columns* option in the drop-down list.

### 14–15 Another Way

Click a cell in column D, click the Delete button in the Cells group on the Review tab, and then click the *Delete Sheet Columns* option in the drop-down list.

## Insert and Delete Columns

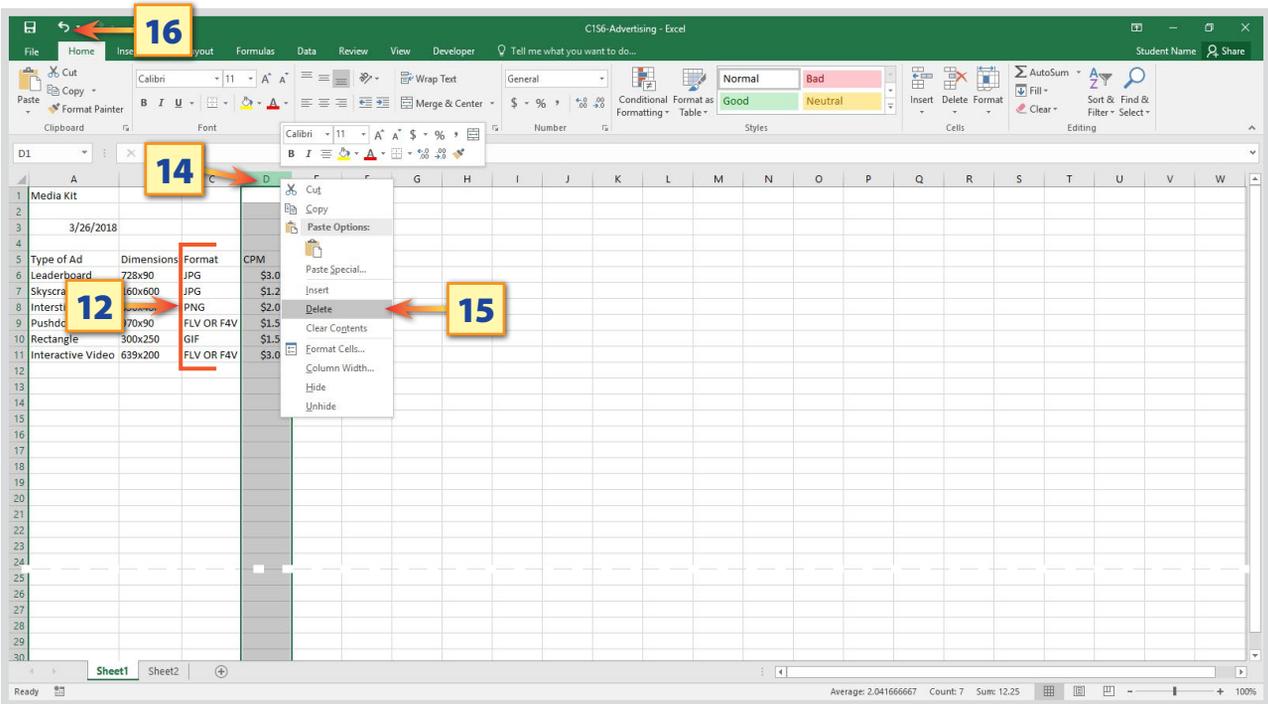
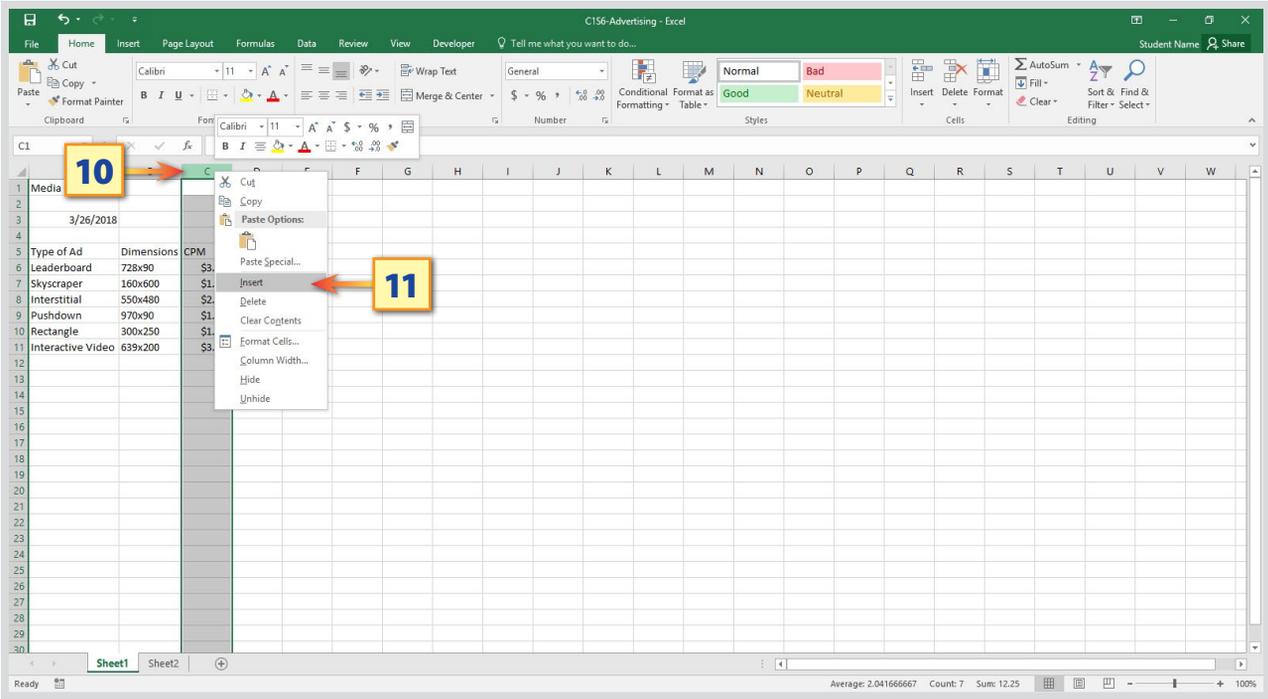
- 10** Right-click the column C column heading.
- 11** Click the *Insert* command in the pop-up menu. A new column appears.
- 12** Make cell C5 active and then type the following entries down the column:  
**Format** [Enter]  
**JPG** [Enter]  
**JPG** [Enter]  
**PNG** [Enter]  
**FLV or F4V** [Enter]  
**GIF** [Enter]  
**FLV or F4V** [Enter]
- 13** Double-click the divider line between the column C and column D headings to resize column C.
- 14** Right-click the column D heading.
- 15** Click the *Delete* command in the pop-up menu. The *CPM* column is deleted and the *Size (KB)* column shifts to the left.
- 16** Click the Undo button to restore the contents of the deleted column.
- 17** Save the file.

## Completed Skill 6

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Media Kit																						
2																							
3		3/26/2018																					
4																							
5	Type of Ad	Dimensions	Format	CPM	Size (KB)																		
6	Leaderboard	728x90	JPG	\$3.00	40																		
7	Skyscraper	160x600	JPG	\$1.25	40																		
8	Interstitial	550x480	PNG	\$2.00	60																		
9	Pushdown	970x90	FLV OR F4V	\$1.50	60																		
10	Rectangle	300x250	GIF	\$1.50	60																		
11	Interactive Video	639x200	FLV OR F4V	\$3.00	60																		
12																							
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## Completed Skill Preview



## Skill 7 Add, Rename, Move, and Delete Worksheets

Given the size of each worksheet, it would be possible to arrange a wide variety of different sets of data in ranges spread throughout a single sheet. However, you would have to spend a lot of time scrolling and otherwise navigating to find the data you want to view and use. Dividing data into multiple worksheets is often more efficient. Each Excel workbook enables you to create multiple worksheets. You also can move and delete sheets.

Giving each worksheet a unique name that identifies its contents makes it much easier to determine which sheet tab to click to find the data you need. A sheet name can be up to 31 characters and can contain most characters on the keyboard, including spaces. Only a handful of characters, such as / (slash), \ (backslash), \* (asterisk), ' (apostrophe), and : (colon), are not allowed in worksheet names.



### Tutorial

► **Tip** Sheet numbers are not reused in a workbook. If you create Sheet2 and then delete it, the next new sheet will be named Sheet3.

► **Tip** You can also use commands in the Move or Copy dialog box to copy the current sheet to a new sheet. This feature can be useful, for example, if you need to track the same data for multiple stores. To copy the current sheet, click the *Create a copy* checkbox to insert a check mark. When the checkbox is empty, any option selected in the dialog box will move the current sheet.

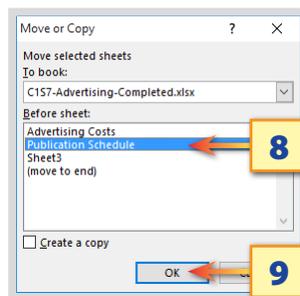
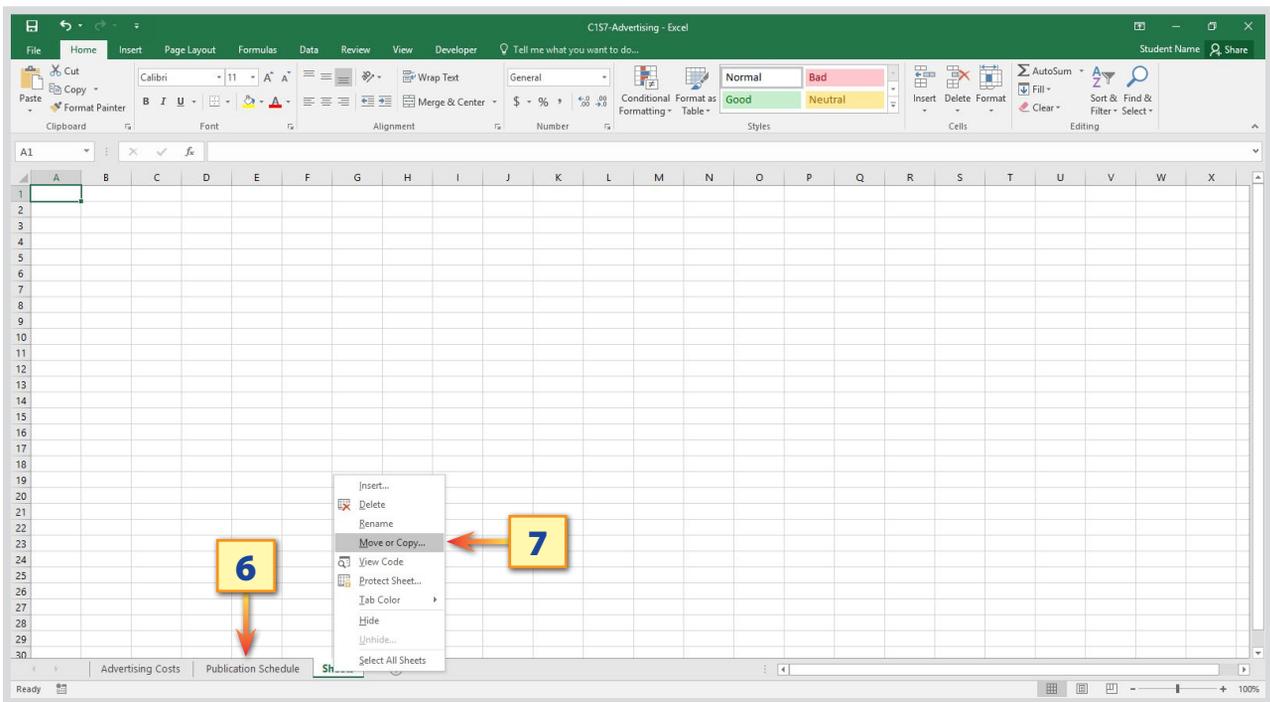
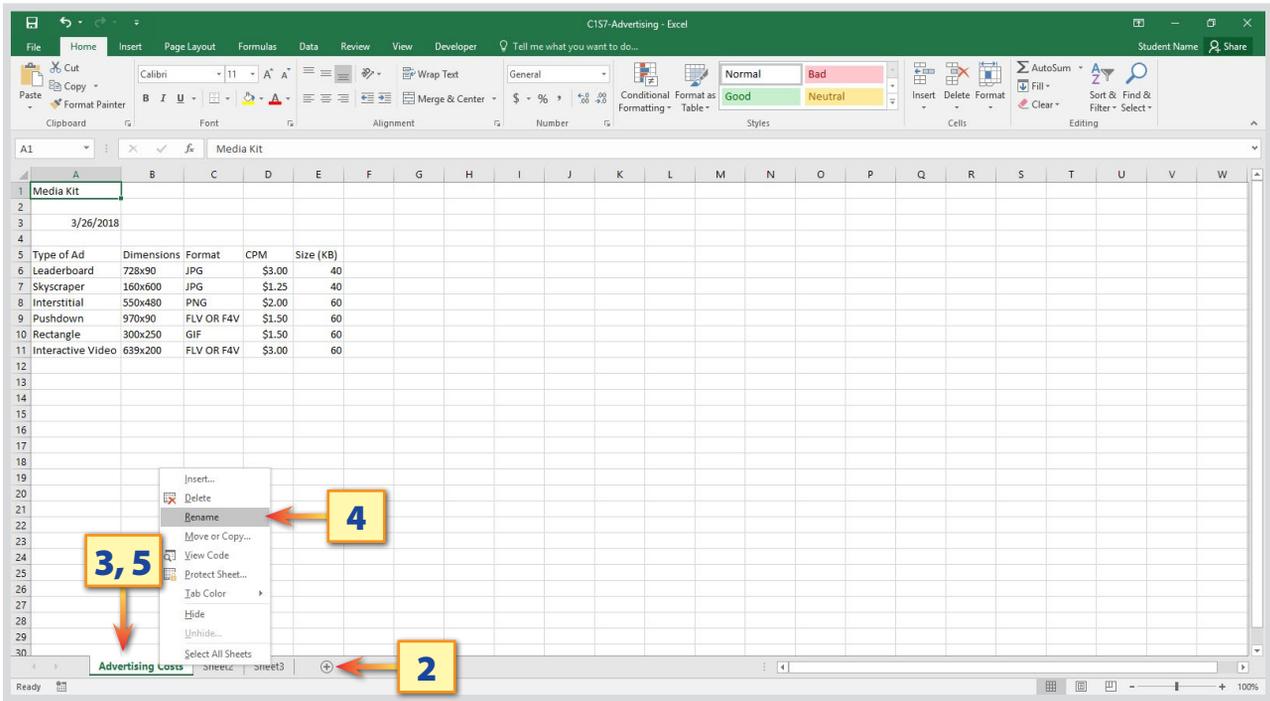
- 1 If it is not already open, open **C1S6-Advertising**, the file you saved in the previous skill, and save it as **C1S7-Advertising**.
- 2 Click the Sheet2 sheet tab and then click the New sheet button to add Sheet3.
- 3 Right-click the Sheet1 sheet tab.
- 4 Click the *Rename* command in the pop-up menu.
- 5 Type **Advertising Costs** and then press Enter.
- 6 Double-click the Sheet2 sheet tab, type **Publication Schedule**, and then press Enter.
- 7 Right-click the Sheet3 sheet tab and then click the *Move or Copy* command.
- 8 In the Move selected sheets dialog box, click the *Publication Schedule* option in the *Before sheet* box.
- 9 Click the OK button. Sheet3 moves before the Publication Schedule sheet and becomes active.

### Taking It Further

#### Color Coding Sheet Tabs

Color coding worksheet tabs is another way to make it easier to find data in a workbook. For example, if you are tracking store profitability, you could use green sheet tabs for all the stores making a profit and red sheet tabs for

all the stores losing money. To change the color of a sheet tab, right-click the sheet tab, point to the *Tab Color* command in the pop-up menu, and then click the color you want in the pop-up palette.



**More** →

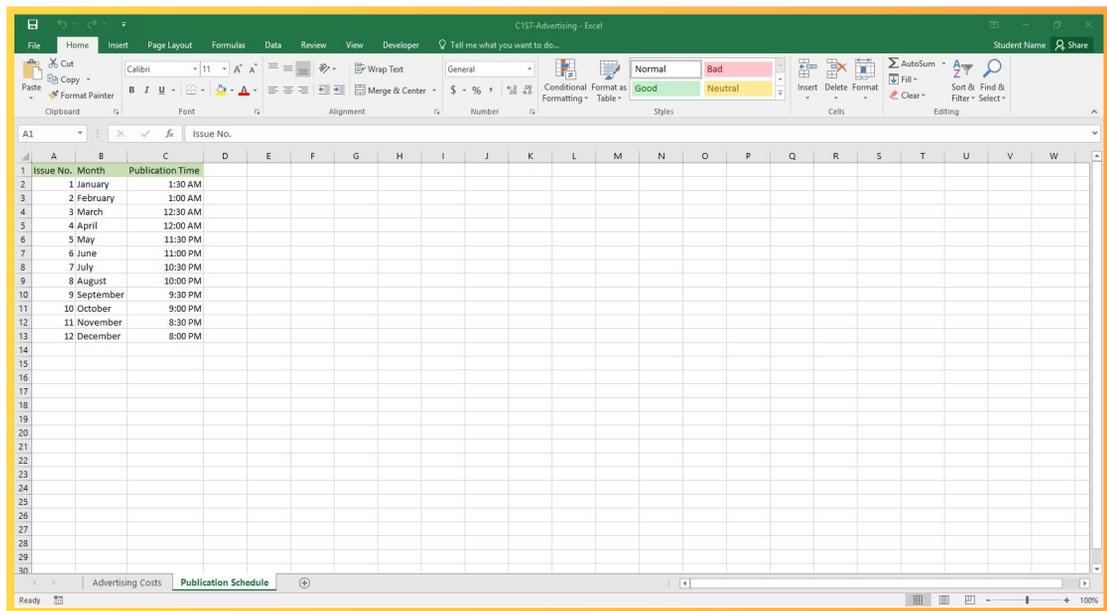
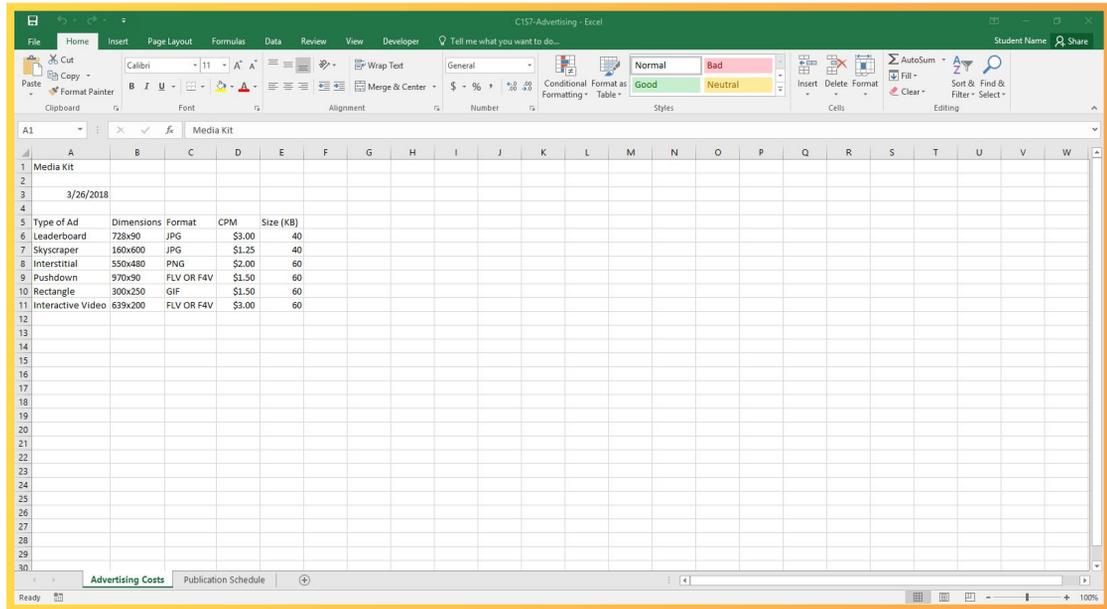
### 10-11 Another Way

Right-click the sheet tab and then click the *Delete* command in the pop-up menu.

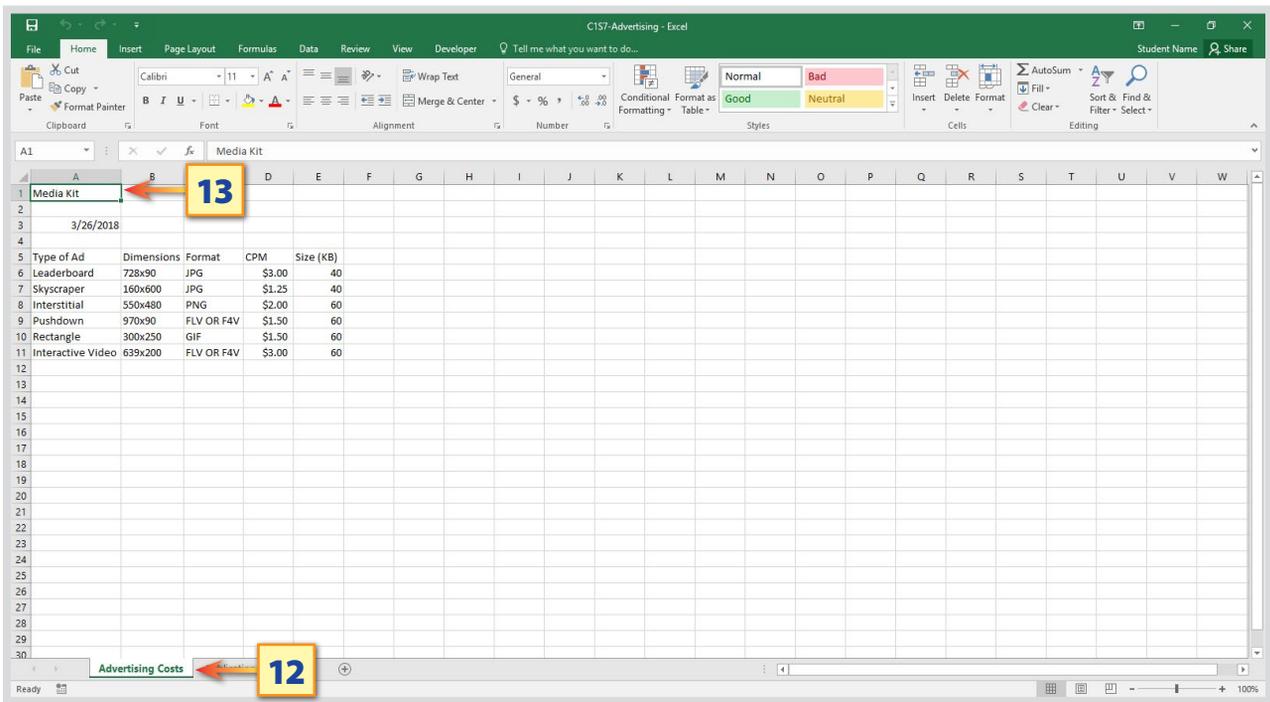
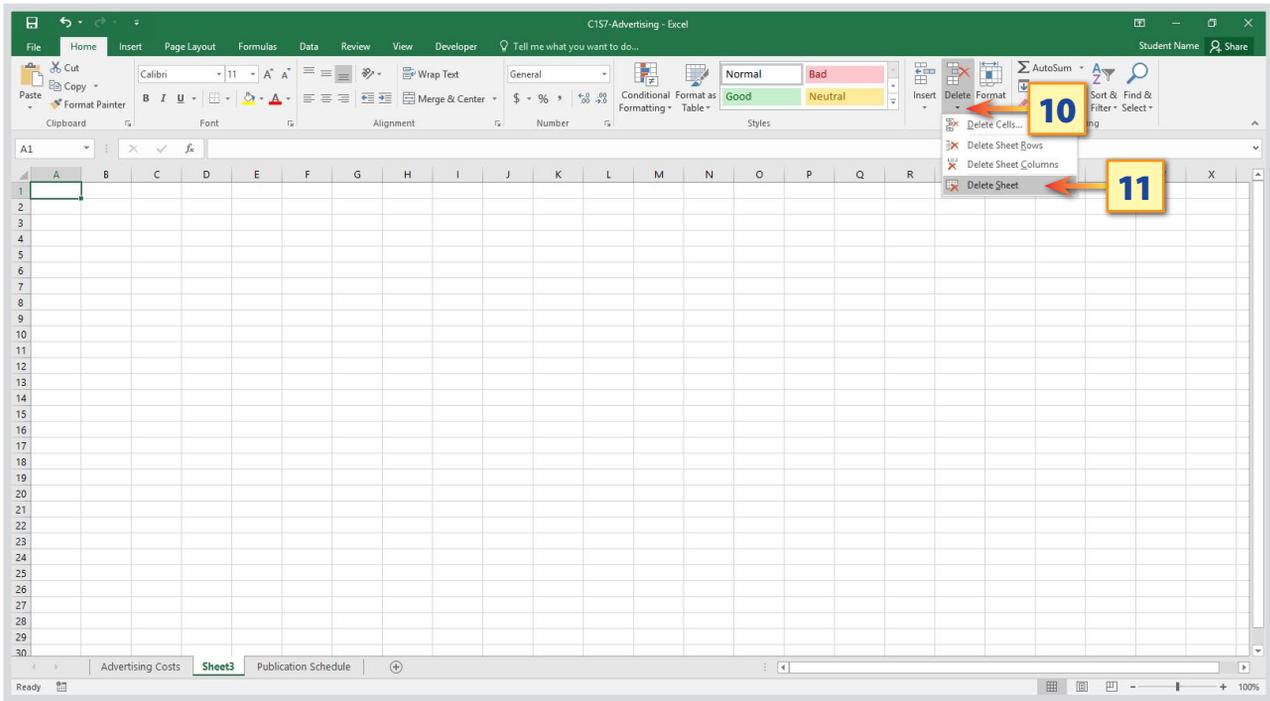
➤ **Tip** Deleting a sheet deletes any data the sheet contains.

- 10 On the Home tab, click the Delete arrow in the Cells group.
- 11 Click the *Delete Sheet* option in the drop-down list.
- 12 Click the Advertising Costs sheet tab.
- 13 Make cell A1 active.
- 14 Save the file.

## Completed Skill 7



Completed Skill Preview



## Taking It Further

### Copying Data to Another Workbook

You may have noticed that the Move or Copy dialog box includes a *To book* arrow. If you have another workbook open, you can select it in the *To book* drop-down list to move or copy the specified worksheet

to that workbook rather than to another location within the current workbook. This action enables you to transfer data to other workbook files more quickly than you could by copying and pasting.

## Skill 8 Insert Headers and Footers

A printed worksheet often consists of multiple pages. Information such as the date, company logo, and page numbers in the header (top) or footer (bottom) of each page can help identify printouts.

When you insert a header or a footer, the worksheet is automatically displayed in *Page Layout* view. This view displays the worksheet as it

will appear on a printed page. If you switch back to Normal view, the headers and footers will not be displayed.

Headers and footers are inserted on individual worksheets. However, you can insert the same header and footer on multiple worksheets by first selecting multiple worksheet tabs.



Tutorial

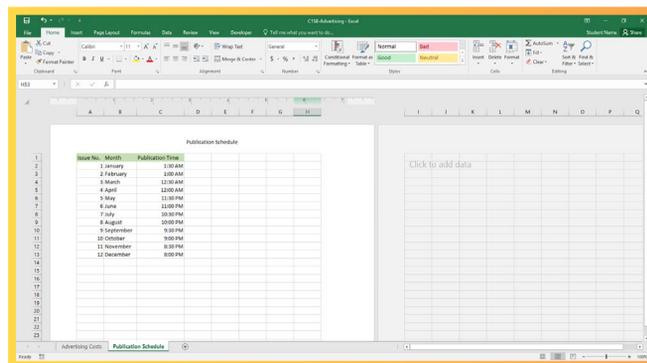
► **Tip** You can tell both sheet tabs are selected by the green line under both sheet tabs.

► **Tip** If you change the sheet name, the header will update automatically.

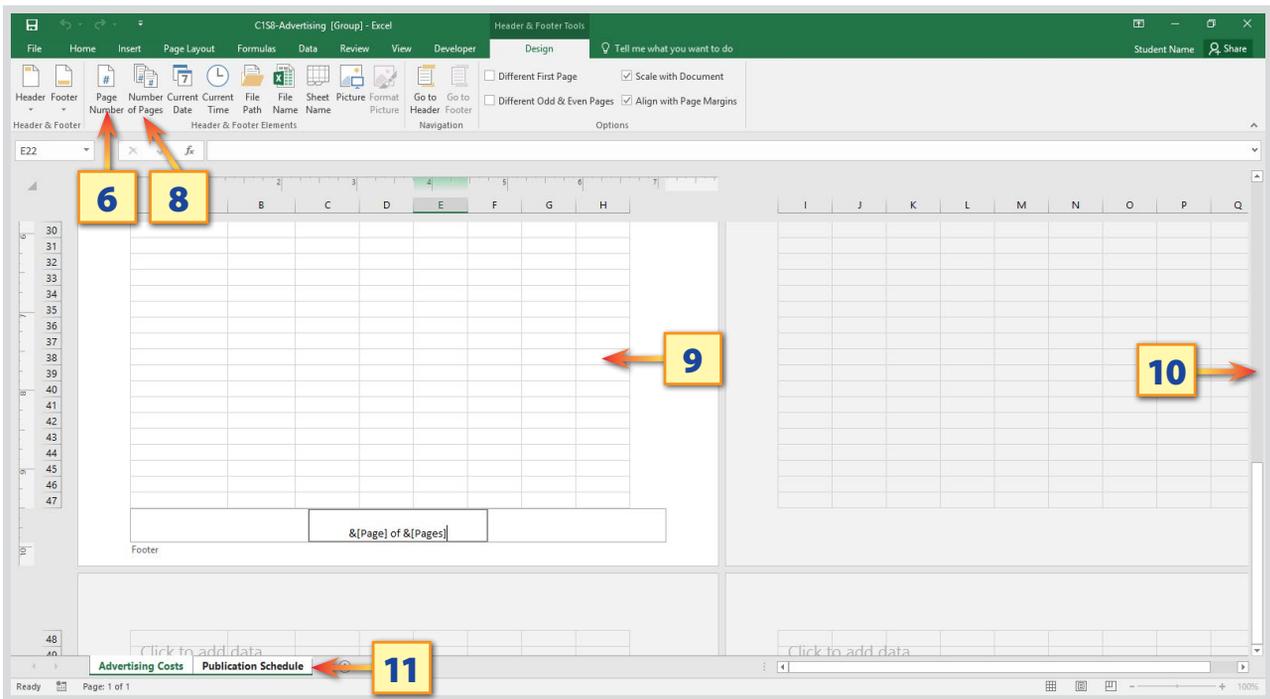
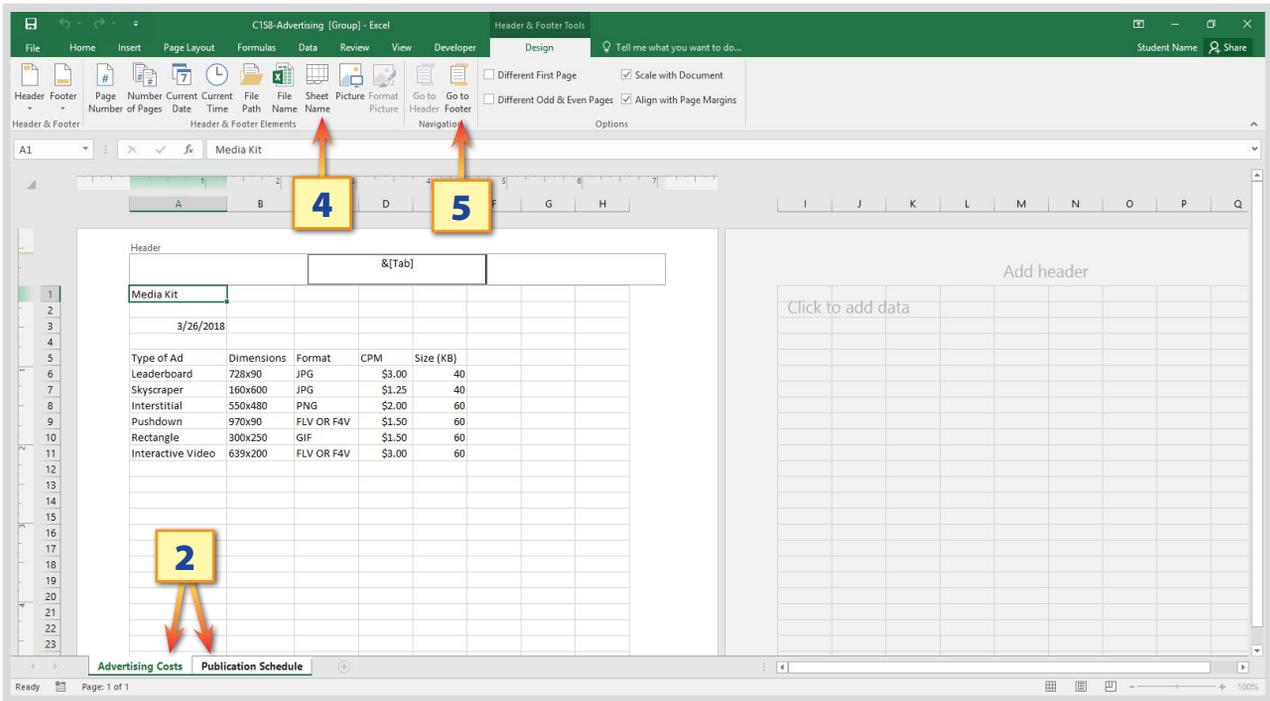
► **Tip** To return to Normal view, click a cell in the worksheet outside of the header or footer area, or click the View tab and then click the Normal button in the Workbook Views group.

- 1 If it is not already open, open **C1S7-Advertising**, the file you saved in the previous skill, and save it as **C1S8-Advertising**.
- 2 Click the Advertising Costs sheet tab, press and hold down the Ctrl key, and then click the Publication Schedule sheet tab to select (or *group*) both sheets.
- 3 Click the Insert tab and then click the Header & Footer button in the Text group. The worksheet is displayed in Page Layout view.
- 4 On the Header & Footer Tools Design tab, click the Sheet Name button in the Header & Footer Elements group. A code (&[Tab]) appears in the header to represent the sheet name.
- 5 Click the Go to Footer button in the Navigation group.
- 6 Click the Page Number button in the Header & Footer Elements group.
- 7 Press the space bar, type *of*, and then press the space bar.
- 8 Click the Number of Pages button.
- 9 Click a blank cell in the worksheet outside the footer area.
- 10 Scroll up and down in both worksheets to view the header and the footer.
- 11 Click the Publication Schedule sheet tab to ungroup the sheets.
- 12 Save the file.

### Completed Skill 8



Completed Skill Preview



## Skill 9 Explore Options for Printing

Whenever possible, many of us try to avoid printing so that we can save paper—and trees! However, distributing printouts, or *hard copies*, is sometimes the most convenient way to collectively review information in meetings and other situations. When each person has a copy of the item being discussed,

individuals can freely jump from page to page and zero in on the data they find important.

Excel offers numerous options for setting up and printing a worksheet. For example, gridlines are solid lines that mark off the rows and columns similar to what appears in the Excel window.



Tutorial

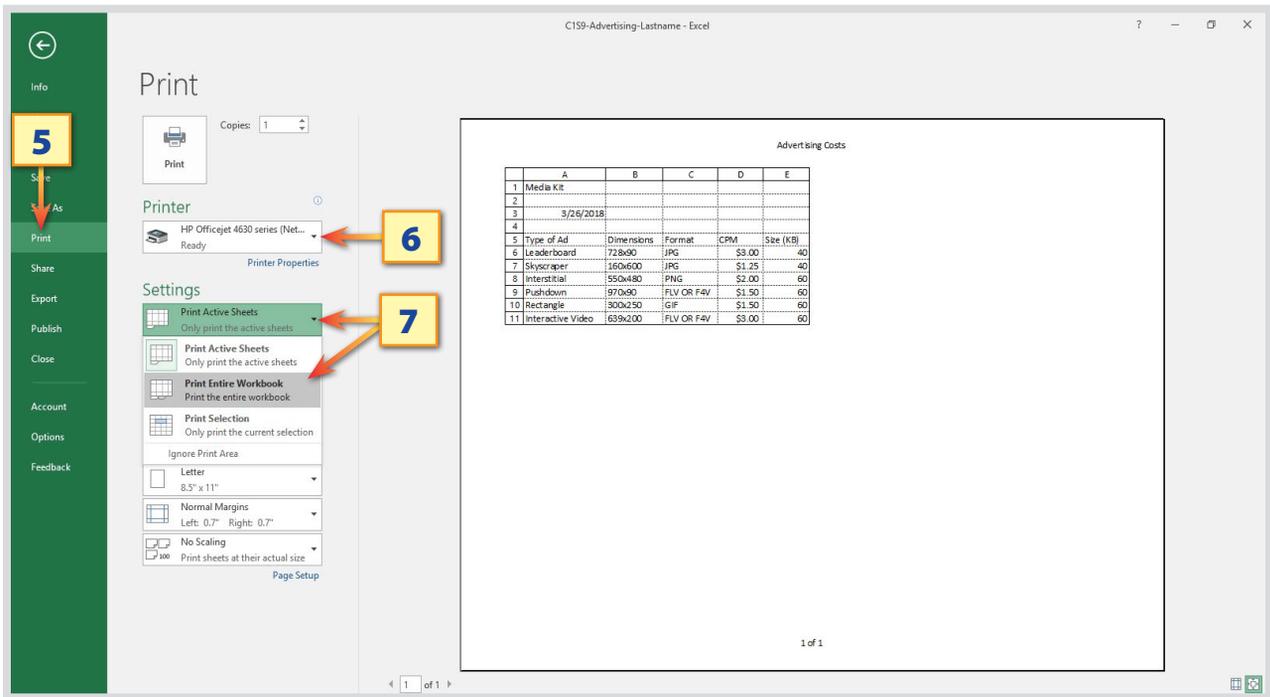
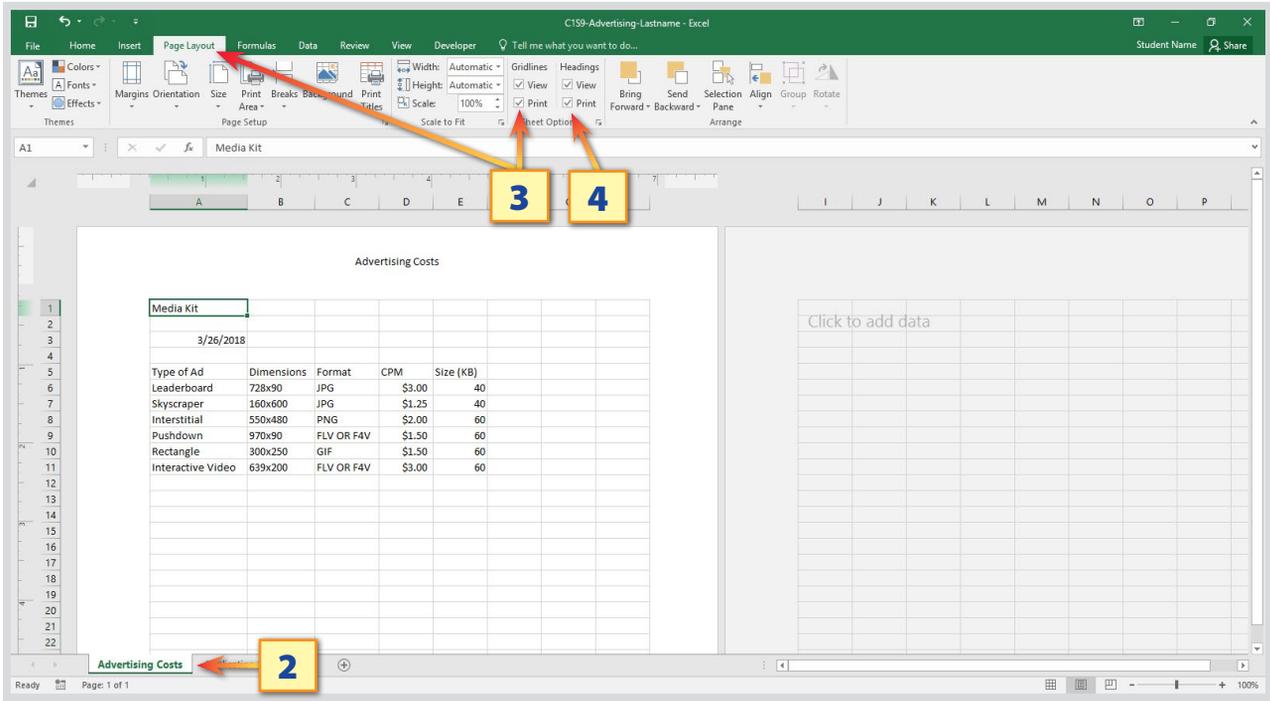
► **Tip** The file should still be displayed in Page Layout view. If Normal view is displayed, click the View tab and then click the Page Layout button in the Workbook Views group.

### 5 **Shortcut**

Print  
Ctrl + P

► **Tip** To print only certain data from a worksheet, select the desired range, click the File tab, click the *Print* option, click the *Print Active Sheets* arrow, and then click the *Print Selection* option in the drop-down list.

- 1 If it is not already open, open **C1S8-Advertising**, the file you saved in the previous skill, and save it as **C1S9-Advertising-Lastname**, but replace *Lastname* with your last name. Be sure to save the file in your Unit 4 working folder on your storage medium.
- 2 Click the Advertising Costs sheet tab to make it active.
- 3 Click the Page Layout tab and then click the *Print* check box in the *Gridlines* section of the Sheet Options group to insert a check mark.
- 4 Click the *Print* check box in the *Headings* section to insert a check mark.
- 5 Click the File tab, and then click the *Print* option to open the Print backstage area, which displays settings and a preview.
- 6 Verify that the correct printer is selected in the *Printer* box. Click the *Printer* arrow to display a drop-down list of available options; click the arrow again to close the list without making a selection. Ask your instructor if more than one printer is available and you are not sure which one to choose.
- 7 Click the *Print Active Sheets* arrow in the *Settings* category, and then click the *Print Entire Workbook* option in the drop-down list to print both sheets in the workbook.



[More](#) →

### 8 Another Way

Click the **Page Setup** link in the Print backstage area and then click the **Landscape** option in the **Orientation** section on the **Page** tab of the **Page Setup** dialog box.

► **Tip** Print settings, such as print orientation, have to be set on individual worksheets.

► **Tip** The printed appearance of your worksheet can be modified using the **Page Layout** tab in the worksheet or the **Page Setup** link in the Print backstage area. In addition to setting page orientation, you can change the paper size, adjust the margins, and add row and column headings to your printout.

► **Tip** If you want to adjust your printout to have all rows or columns on one page, you can use the scaling options in the last option box in the **Settings** category of the Print backstage area.

8 Click the **Portrait Orientation** arrow and then click the **Landscape Orientation** option in the drop-down list.

9 In the preview panel, click the **Next Page** arrow to display page 2, the **Publication Schedule** sheet. Notice the difference when print gridlines and headings are not added to a printout.

10 Click the **Portrait Orientation** arrow and then click the **Landscape Orientation** option.

11 If your instructor asks you to print the document, click the **Print** button. Otherwise, click the **Back** button.

12 Save and close the file.

### Completed Skill 9

Advertising Costs

	A	B	C	D	E
1	Media Kit				
2					
3	3/26/2018				
4					
5	Type of Ad	Dimensions	Format	CPM	Size (KB)
6	Leaderboard	728x90	JPG	\$3.00	40
7	Skyscraper	160x600	JPG	\$1.25	40
8	Interstitial	550x480	PNG	\$2.00	60
9	Pushdown	970x90	FLV OR F4V	\$1.50	60
10	Rectangle	300x250	GIF	\$1.50	60
11	Interactive Video	639x230	FLV OR F4V	\$3.00	60

1 of 2

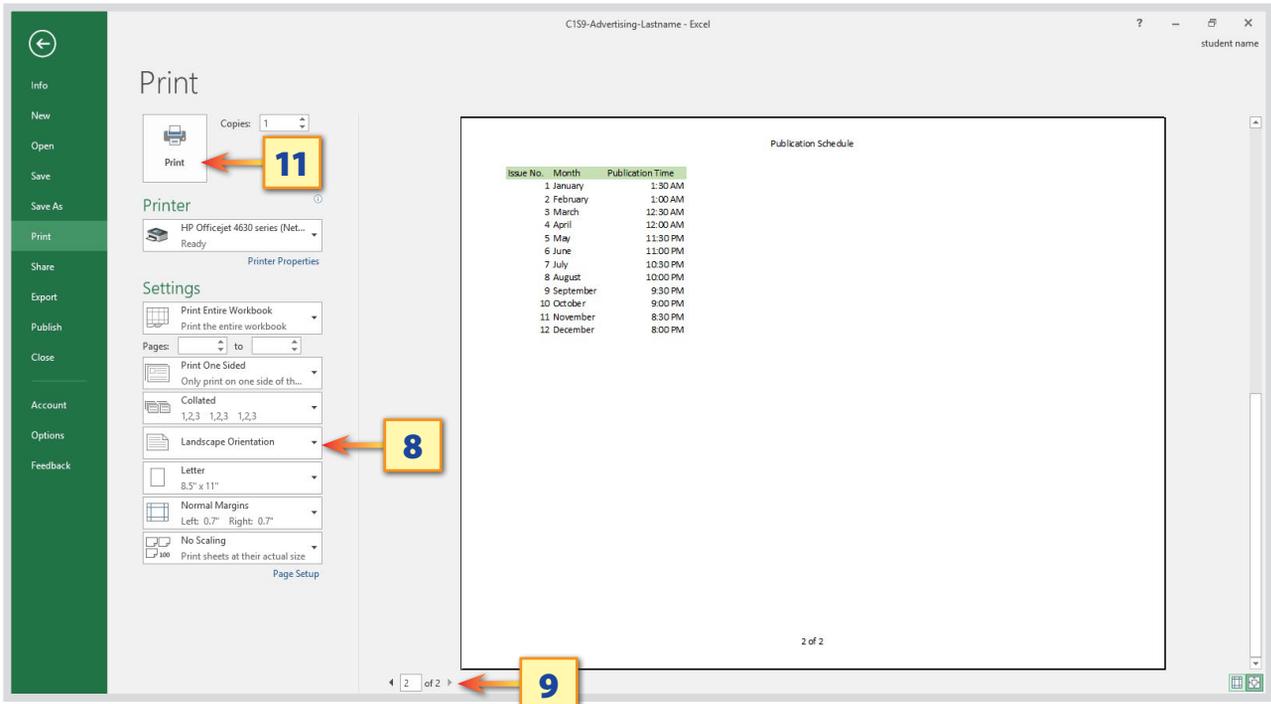
Publication Schedule

Issue No.	Month	Publication Time
1	January	1:30 AM
2	February	1:00 AM
3	March	12:30 AM
4	April	12:00 AM
5	May	11:30 PM
6	June	11:00 PM
7	July	10:30 PM
8	August	10:00 PM
9	September	9:30 PM
10	October	9:00 PM
11	November	8:30 PM
12	December	8:00 PM

2 of 2



Completed Skill Preview



## Taking It Further

### Creating a PDF File

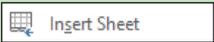
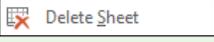
Excel worksheets are often used to organize, calculate, and present financial data. When sharing this data electronically, such as through email, it is important to ensure the data isn't changed by others. One way to preserve the data and also the formatting is to save the sheet as a PDF before it is sent electronically. This also allows individuals to open the file if they do not have access to the Excel software. To save the file as a PDF, click the File tab, click the *Export* option, click the *Create*

*PDF/XPS Document* option in the *Export* category if necessary to select it, and then click the *Create PDF/XPS* button in the *Create a PDF/XPS Document* section. In the *Publish as PDF or XPS* dialog box, you can rename the file and select from a variety of options. Click the *Options* button to make additional choices, such as which sheets to include in the PDF. Click the *OK* button to close the *Options* box and then click the *Publish* button to create the PDF.

# Excel Chapter 1 Tasks Summary

Task	Ribbon Tab, Group	Button, Option	Shortcut, Alternative
Make a sheet active			Click sheet tab
Make a cell active			Click cell, use arrow keys to move to cell, or type cell address in Name box and then press Enter; go to cell A1 by pressing Ctrl + Home
Select a cell range	Name box		Drag, click upper left cell, and then Shift + click lower right cell, click upper left cell and then use arrow keys to extend the selection, or type cell range in Name box and then press Enter
Finish a cell entry			Enter, Ctrl + Enter, Tab, or arrow key
Auto Fill cells with a value or series	Home, Editing		Drag fill handle
Perform a spelling check	Review, Proofing		F7
Insert a row	Home, Cells	 <i>Insert Sheet Rows</i>	Right-click selected row headings and then click <i>Insert</i>
Insert a column	Home, Cells	 <i>Insert Sheet Columns</i>	Right-click selected column headings and then click <i>Insert</i>
Delete a row	Home, Cells	 <i>Delete Sheet Rows</i>	Right-click selected row headings and then click <i>Delete</i>
Delete a column	Home, Cells	 <i>Delete Sheet Columns</i>	Right-click selected column headings and then click <i>Delete</i>



Task	Ribbon Tab, Group	Button, Option	Shortcut, Alternative
Insert a blank worksheet	Home, Cells		Click New sheet button
Delete a worksheet	Home, Cells		Right-click sheet tab and then click <i>Delete</i>
Rename a worksheet			Right-click sheet tab, click <i>Rename</i> , and then type new name; or double-click sheet name and then type new name
Move a worksheet			Right-click sheet tab, click <i>Move or Copy</i> , click <i>Create a copy</i> check box to insert check mark, select copy location, and then click OK
Copy a worksheet			Right-click sheet tab, click <i>Move or Copy</i> , click location in Move selected sheets dialog box, and then click OK
Insert a header	Insert, <i>Text</i>		
Insert a footer	Insert, <i>Text</i>		
Print	File, <i>Print</i>		Ctrl + P



Recheck

*Recheck your understanding of the skills and features covered in this chapter.*



Workbook

*Chapter study resources, exercises, and assessments are available in the Workbook ebook.*