

Concepts Review

True/False Questions

Each of the following statements is either true or false. Indicate your choice by circling T or F.

- T F 1. You can arrange two workbooks side by side vertically or horizontally.
- T F 2. To determine the average of a range that is subject to multiple criteria, use AVERAGEIFS.
- T F 3. Filter arrows appear with each cell in the header row in a table.
- T F 4. The total row for a table can only calculate results for numerical columns.
- T F 5. Structured references can be renamed and redefined.
- T F 6. An ascending sort arranges rows in alphabetical order.
- T F 7. If you want to use more than one condition and an operator such as “greater than,” use a custom filter in a table.
- T F 8. The TEXT function converts a label into a value using the format codes that you key.

Short Answer Questions

Write the correct answer in the space provided.

1. Which name describes such workbook properties as hidden sheets, gridlines, and column widths that have been saved for repeated displaying when needed?

2. Which Table Style Option shows fill for every other row?

3. Write the code format to display a month so that it is spelled out?

4. What does a filter do?

5. Which type of sort would arrange rows so that the largest number is first?

EX-356

UNIT 3 Presenting and Analyzing Worksheet Data

6. What are the arguments for the COUNTIFS function?

7. What is the default print area for a worksheet?

8. What is a structured reference?

Critical Thinking

Answer these questions on a separate page. There are no right or wrong answers. Support your answers with examples from your own experience, if possible.


- In your school or the company where you work, what uses can you think of for sorting and filtering data?
- What do you see as advantages of formatting a list as an Excel table? Why might you not want to do so? Give some specifics to illustrate your point.

Skills Review

Exercise 8-25

Create a table. Work with the Table Tools Design tab.


Patient data are currently arranged by quarter on four worksheets. Using the header row on the first sheet, your first task is to copy the data so that they are all on a single sheet. After all the data are gathered, you'll format the list as an Excel table, add a record, and complete the design.

- Open **Excel_SR8-25** and save it as *[your initials]8-25*.
- Create a table by following these steps:
 - Click the **Sheet2** worksheet tab. Click cell A4. Press **F8**, and then press **Ctrl**+**→** to extend the selection to column K.
 - Press **Ctrl**+**↓** to extend the selection to row 13.
 - On the **Home** command tab, click the Copy button .
 - Click the **Sheet1** worksheet tab and click cell A20. Press **Ctrl**+**V**.
 - Click the **Sheet3** worksheet tab. Repeat these steps to copy the data rows to start in row 30 on **Sheet1**.



REVIEW

You can ignore the Paste Options button when the copied data have the same format as the destination data.

- f. Copy the data rows on **Sheet4** to the appropriate location on **Sheet1**.
 - g. Select cells A3:K49 on **Sheet1**. Click the Format as Table button .
 - h. Choose **Table Style Medium 15**. Verify the data for the table and that the headers are recognized. Click **OK**.
3. Work with the Table Tools Design tab by following these steps:
 - a. Click any cell in the table.

**TIP**

If the column headings scroll out of view, click cell A1 and then scroll to cell J50.

**TIP**


When the total row is shown, place the pointer in the last cell above this row and press **Tab** to add a data row.

- b. Click the **Table Tools Design** tab.
 - c. In the **Table Style Options** group, click to select **Total Row**.
 - d. Click cell J50 and its arrow. Choose the **Sum** tab.
 - e. Click cell B50 and its arrow. Choose the **Count** tab.
 - f. Click in the **Table Name** box in the **Properties** group. Key **Patients** and press **Enter**.
 - g. Click cell K49 and press **Tab**.
 - h. Key data for yourself using your facts or fictitious information. Use AutoComplete to select a city and insurance company.
4. Select cells A3:K3, and set the font color to **White, Background 1** box.
 5. Change the page orientation to landscape and fit the width to one page.
 6. Set rows 1:3 as **Print Titles**.
 7. Select column F, and format the cells to use a custom format of **00000**. This will show leading zeros for ZIP Codes in Massachusetts.
 8. Select column G, and format the cells to use the special **Phone Number** format. Make sure the worksheet still fits on a single landscape page.
 9. Prepare and submit your work.

Exercise 8-26

Create a table. Use the Table Tools Design tab. Sort and filter records.

With patient data on a single worksheet, you can now format the data as an Excel table. You will then make copies of the worksheet so that the sorted and filtered tables can be kept separately. One of the filters will show only those customers who have a particular insurance provider; the other will show those patients who have not visited since a certain year.

1. Open **Excel_SR8-26** and save it as **[your initials]8-26**.
2. Create a table by following these steps:
 - a. Click any name in column B and click the **Home** command tab.
 - b. Click the Format as Table button . Choose **Table Style Medium 10**.
 - c. In the Format as Table dialog box, edit the range to show cells **=\$A\$3:\$K\$49**.
 - d. Place a checkmark for **My table has headers**. Click **OK**.






UNIT 3 Presenting and Analyzing Worksheet Data

3. Use the Table Tools Design tab by following these steps:
 - a. Hover over the bottom-right sizing handle in cell K49.
 - b. With the two-pointed arrow, drag to expand the table to row 50.
 - c. Key a record for yourself in row 50. Choose a city, state, and insurance company from AutoComplete or Pick From Drop-down List. If you choose Massachusetts as your state, precede the four-digit ZIP Code with a zero (0).
 - d. Click in the **Table Name** box in the **Properties** group. Key **Patients** and press **Enter**.
4. Sort records in a table by following these steps:
 - a. Name **Sheet1** as **Patients**.
 - b. Right-click the **Patients** worksheet tab, and choose **Move or Copy**. Copy the sheet and place it before **Sheet2**.
 - c. On the **Patients (2)** sheet, click the filter arrow for the **State** field. Choose **Sort A to Z**.
 - d. Click the filter arrow for the **State** field again. Choose **Sort by Color** and then **Custom Sort**.
 - e. Click **Add Level**. Click the **Then by** arrow and choose **City**. Choose **Values** for the **Sort On** option and **A to Z** for the **Order**. Click **OK**.
 - f. Rename the **Patients (2)** sheet as **State&City**.
5. Filter records in a table by following these steps:
 - a. Copy the **Patients** worksheet and place it before **Sheet2**.
 - b. Click the **Insurance** filter arrow. Click to deselect (**Select All**).
 - c. Click to select **White Cross**. Click **OK**.
 - d. Name the worksheet tab **WhiteCross**.
 - e. Copy the **Patients** worksheet and place it before **Sheet2**. Name the copy **2009**.
 - f. On the **2009** sheet, click the **Last Visit** filter arrow and choose **Date Filters**. Then choose **Custom Filter**.
 - g. In the first entry box, choose **is after or equal to**.
 - h. Click in the entry box to the right and key **1/1/09**.
 - i. Click the **And** button.
 - j. Click the down arrow for the box below the And and Or buttons. Choose **is before or equal to**.
 - k. Click in the entry box to the right and key **12/31/09**. Click **OK**.
 - l. Click the filter arrow for the **Last Visit** field again. Choose **Sort Oldest to Newest**.
6. Prepare and submit your work.

Exercise 8-27

Create a table. Work with the Table Tools Design tab. Identify structured references. Create a calculated column. Use SUMIFS and COUNTIFS.



Eyeglass frame sales have been tracked for a 4-month period. The worksheet includes a sparkline for the 4-month span. The list is now to be formatted as a table and a total column is to be inserted. On a separate worksheet, summary information about the frames and suppliers is prepared in a table. Additional calculations are required as well as some updating.

1. Open **Excel_SR8-27** and save it as *[your initials]8-27*. Center the page horizontally.
2. Create a table by following these steps:
 - a. Select cells A4:F18. Click the Format as Table button .
 - b. Choose **Table Style Light 1**. Verify the data for the table and that the headers are recognized. Click **OK**.
3. Work with the Table Tools Design tab by following these steps:
 - a. Click the **Table Tools Design** tab.
 - b. In the **Table Style Options** group, click to select **Total Row**.
 - c. Click cell C19 and its arrow. Choose **Sum**. Show the sum for each month in row 19.
 - d. Click cell B5. On the **Sparkline Tools Design** tab, click the Sparkline Color button  and choose **Black, Text 1**. Click the button again, choose **Weight**, and set a thickness of 1½ points.
 - e. In the **Show** group, click to place a checkmark for **Markers**. Then click the Marker Color button  and choose **Markers**. Choose **Yellow** from the standard colors.
 - f. Copy the sparkline to row 18.
 - g. Click in the **Table Name** box in the **Properties** group. Key **Sales** and press .
4. Identify structured references by following these steps:
 - a. Click cell A22 and key **4-Month Total**. Make it bold.
 - b. Click cell B22 and key **=sum(** to start the SUM function.
 - c. Key **s** to trigger Formula AutoComplete. Double-click **Sales**, the table name.
 - d. Key **]** to trigger the structured reference list. Double-click **#Totals**, a structured reference to the cells in the total row.
 - e. Key **]** to complete the structured reference. Press .
 - f. Format the results with comma style, no decimals. Make it bold.



TIP

If you accidentally copy the sparkline to row 19, select the cell and clear the sparkline from the Sparkline Tools Design tab.

5. Create a calculated column by following these steps:
 - a. Click cell G5 and click the Sum button Σ . Press **Enter**. The table expands, copies the formulas, and inserts an assumed label in cell G4.
 - b. Click cell G4 and key **4-Month Total**.
 - c. Widen the column to show the label. Filter arrows do not print and will not obscure the label.
 - d. Click cell B5. The sparkline group is selected. Each sparkline now includes the total column, which is not part of the sales trend.
 - e. On the **Sparkline Tools Design** tab in the **Sparkline** group, click the Edit Group Location & Data button . The **Data Range** should be C5:F18. Make the change and click **OK**.
 - f. Right-click the **EyeglassSales** worksheet tab and choose **Unhide Sheet**. Unhide the **Frames&Suppliers** sheet.
 - g. Clear the contents of cells E5:E18.
 - h. Click cell E5 and key **=** to start a formula. Click the **EyeglassSales** tab and click cell G5. Press **Enter**.
6. Use SUMIFS and COUNTIFS by following these steps:
 - a. Click cell C22 and click the Insert Function button .
 - b. Choose **SUMIFS** in the **Math & Trig** category.
 - c. In the **Sum_range** box, select cells E5:E18. The structured reference is supplied.
 - d. Click in the **Criteria_range1** box and select cells B5:B18. In the **Criteria1** box, key **art***.
 - e. Click in the **Criteria_range2** box and select cells C5:C18. In the **Criteria2** box, key **chi***.
 - f. Click **OK**.
 - g. Copy the formula to cells C23:C24. Then edit each copy to show the correct criteria for the supplier range.
 - h. Click cell C26 and insert **COUNTIFS** from the **Statistical** category.
 - i. In the **Criteria_range1** box, select cells B5:B18.
 - j. Click in the **Criteria1** box. Key **art***.
 - k. Click in the **Criteria_range2** box and select cells C5:C18. In the **Criteria2** box, key **bos***. Click **OK**.
 - l. Copy the formula to cells C27:C28 and edit the criteria as needed.
7. Make a copy of the sheet. Hide columns B and D and set landscape orientation. Turn off horizontal centering. Display the formulas, and fit the columns to the data, ignoring the main labels. Fit the formula sheet to one page.
8. Prepare and submit your work.






**NOTE**

You can choose SUMIFS from the Recently Used list too.

Exercise 8-28

Set a print area. Create custom views.

Employee information is listed in a worksheet and grouped by department. The data are arranged in a way that requires a special print area and then several custom views. Each view should show a single department.

1. Open **Excel_SR8-28** and save it as **[your initials]8-28**.
2. Set a print area by following these steps:
 - a. Select cells A11:G16.
 - b. Click the **Page Layout** command tab.
 - c. Click the Print Area button . Choose **Set Print Area**.
 - d. Add a footer to the page with your name, the file name, and the date. Print the area.
 - e. Click the Print Area button . Choose **Clear Print Area**.
3. Create custom views by following these steps:
 - a. Click cell I1.
 - b. Click the **Page Layout** command tab. Click the Breaks button . Choose **Insert Page Break**.
 - c. Copy cells A1:A3 to cells I1:I3.
 - d. Click the **View** command tab. Click the Custom Views button .
 - e. Click **Add**. Key **Original** as the name.
 - f. Select both **Print settings** and **Hidden rows, columns and filter settings**.
 - g. Click **OK**.
 - h. Hide rows 11:16 and columns I:O. Press **Ctrl+Home**.
 - i. On the **View** tab, click the Custom Views button . Click **Add**. Key **Fund-Raising**. Select both **Print settings** and **Hidden rows, columns and filter settings**. Click **OK**.
 - j. Unhide rows 11:16 and hide the rows for the Fund-Raising Department.
 - k. Create a custom view named **HR**.
 - l. Create a view for each of the other two departments. The department name for the officers' view is "Administration."
4. Show the original view. Prepare and submit your work.

Lesson Applications

Exercise 8-29


Create a table. Use the Table Tools Design tab. Sort records. Identify structured references. Use COUNTIFS.

AllAround Vision Care identifies an inactive patient as one who has not been to the office for at least 24 months. The records for these patients are scheduled for review on either Tuesday or Thursday of next week. Your task is to count how many patients from each group will be reviewed on each day.

1. Open **Excel_LA8-29** and save it as *[your initials]8-29*.
2. Create a table using any of the light table styles. Name the table **Inactive**. If the style does not include vertical borders between the columns, add them using the Borders dialog box.
3. Sort the records by last name and first name. Remove duplicates using the first and last name and birth date fields.
4. Center the label in cell A1 across the table, and center the page horizontally.



REVIEW

Copy the formula and then click the Insert Function button  for the copied cell to edit the formula within the Function Arguments dialog box.

5. On **Sheet1**, complete the labels in column A to list all the groups, A:E.
6. In cell B3, use COUNTIFS to count how many patient accounts from Group A are scheduled for review on Tuesday. Use the same function to count the records for the other groups. Then do the same for Thursday.
7. Insert a column at column A and a row at row 1. Make column A about half its current width and then set the same width for column E. Create an outside border for cells A1:E9. Then build a border layout for the data. Make other formatting changes to increase the readability of the data.
8. Rename **Sheet1** as **Schedule**. Center the page horizontally.
9. Prepare and submit your work.

Exercise 8-30

Create custom views.

AllAround Vision Care maintains five investment accounts to manage its cash. This worksheet tracks profits and losses in each account as well as transfers. The data for 3 years are shown in the worksheet, and you have been asked to create a separate view so that each year can be viewed separately on screen.

1. Open **Excel_LA8-30** and save it as *[your initials]8-30*.
2. Set the page orientation to landscape.

3. Create a view of the data as they are initially displayed. Then create a custom view for each of the 3 years that includes only that year's data.
4. Prepare and submit your work.

Exercise 8-31

Use COUNTIFS and AVERAGEIFS. Identify structured references. Sort and filter records.

As part of its cooperation with the WorldWide Campaign, AllAround Vision Care has found that some patients are flown in from other locations and require overnight accommodations. With help from a major hospital, it has assembled information about homes that might be purchased as recovery or respite locations for patients and/or their families. You are to prepare the summary information for the data.

1. Open **Excel_LA8-31** and save it as **[your initials]8-31**.
2. Click cell B3 on the **Summary** sheet. Use COUNTIFS to determine how many homes meet the criteria specified in column A. Copy the formula and edit the criteria for each row.



NOTE

Use >= or = in the criteria.

3. Click cell C3 on the **Summary** sheet. Use AVERAGEIFS to calculate an average last sale price for the specified home category. Format the results as currency with no decimals.
4. On the **Properties** sheet, sort the records in descending order by last sales price, and filter them to show only those with solar heat.
5. Make a copy of the **Summary** sheet. Display the formulas. Set landscape orientation and turn off horizontal centering. Fit the width to one page.
6. Prepare and submit your work.

Exercise 8-32 ♦ Challenge Yourself

Create and style a table. Create a calculated column. Sort records. Use COUNTIFS.

In a worksheet with patient birth date information, AllAround Vision Care wants to determine the day of the week on which each person was born.



TIP

Look up formatting codes for dates in Help.

Then it will also calculate which day the birthday falls on this year. As part of a unique birthday promotion, the company wants to identify and count patients whose next birthday will fall on the same actual weekday as their birth date.

1. Open **Excel_LA8-32** and save it as **[your initials]8-32**.
2. Create a table using your choice for the style. Remove duplicate records.
3. In cell D4, use the TEXT function to format the date in column C (the **Value** argument). For the **Format_text** argument, key codes that show only the day of the week, spelled out.

**REVIEW**

Before starting the Replace command, select the range where replacements should be made.

4. Copy cells C4:C33 to the same range in column E. Then replace the years in column E with the current year. Start a Replace command with a **Find what** string of **19??**, and replace it with **20nn**, with *nn* being this year. You may have to fix some dates manually (refer to the dates in column C).
5. In cell F4, use the TEXT function to display the date in column E as only the day of the week, spelled out.
6. Sort the records by last name and first name.
7. On the **MatchDays** sheet, edit cell A3 so that the word *patients'* shows a single apostrophe and the phrase is “original days of birth.” Then wrap this text, and make adjustments so that the sentence fits on two lines.
8. In cell B6, use COUNTIFS to count how many patients' birthdays this year are the same day of the week as their actual births. Use a reference to cell A6 for the criteria. Copy the formula.
9. Format the **MatchDays** sheet with your own style decisions.
10. Prepare and save your work.

On Your Own

In these exercises you work on your own, as you would in a real-life work environment. Use the skills you've learned to accomplish the task—and be creative.

Exercise 8-33

Make a mental list of five popular sports teams, five international cities, and five well-known personalities or celebrities. In a new workbook, use two columns to key first and last names of 25 fellow students, co-workers, relatives, or friends. In the third column, key the person's favorite sports team (one from your list). In the fourth column; key the person's dream city (also from your list). In the fifth column, key the name of the celebrity each person would most like to meet. Key a label for each column. Format the data as a table and name it **Dreams**. Sort the rows alphabetically by last name. In another separate location on the worksheet, key labels for each team, city, and celebrity in your table in a single column. Filter the rows in your table to show each team, city, and celebrity in turn, and key the number of result records in the column next to the label. Save the workbook as *[your initials]8-33*. Prepare and submit your work.

Exercise 8-34

In a new workbook, develop a music download list of your favorites. You can download a list as a text file from the Web; or you can key your own list. Format the list as a table. Add a column to show the number of times each song has been downloaded or played; key real or fictitious data. Next, add a calculated column to show a calculation (you determine what) related to this new column. Edit the labels as needed. Save your workbook as *[your initials]8-34*. Prepare and submit your work.

Exercise 8-35

In a new workbook, create a list of 15 retail stores or restaurants in your city. In separate columns, list a phone number, the year they started in business, and an average hourly wage for someone who works at the establishment (guess or estimate if necessary). Format the data as a table. Sort the rows by year started in business, with the oldest establishment listed first. Show an average hourly wage in the total row. In a calculated column, show typical weekly wages if an employee works 35 hours a week. Save your workbook as *[your initials]8-35*. Prepare and submit your work.