

## 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. The INT and ROUND functions use the same arguments.
- T F 2. An integer is a whole number, a nondecimal number.
- T F 3. Excel uses a serial number system for dates.
- T F 4. A nested function is placed in the cell below the first formula.
- T F 5. You can hide a worksheet in a workbook.
- T F 6. A hyperlink is a blinking cell with a formula.
- T F 7. An XLS file has all the same features and functions as an XLSX file.
- T F 8. To convert a fraction of a day to hours, multiply by 365.25.

### Short Answer Questions

Write the correct answer in the space provided.

1. What is the term used to describe a function inside a function?

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2. What would this function display in the cell =INT(3.5643)?

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3. What button, when clicked, reveals the Top/Bottom Rules command?

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4. What does a hyperlink do?

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5. Which function inserts the current date?

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6. How can you convert days into years?

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7. How would Excel display this value =ROUND(1.567,2) in the cell?

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8. Name two functions that are often used in nested formulas.

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## 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.

1. How would you determine the number of days until Christmas?
2. Which function do you think has more value in business use: INT or ROUND? Why?

## Skills Review

### Exercise 8-15


Use the INT and ROUND functions.

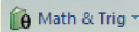
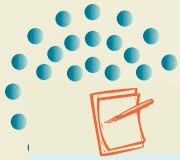
1. Open **Miles&Bulk** and save it in your Lesson 8 folder as *[your initials]8-15*.
  2. On the **DeliveryMiles** sheet, format cell A1 as 18-point Calibri. Make the labels in row 3 bold. Then make all three columns **27.86 (200 pixels)** wide.
  3. Use the INT function by following these steps:
    - a. Key =int in cell C4 and press **[Tab]**.
    - b. Click cell B4 and press **[Enter]**.
    - c. Copy the formula in cell C4 to cells C5:C8.
4. Format rows 3:8 each **22.50 (30 pixels)** high.
5. Insert a column at column A. Apply a double-line **Outline** border to cells A2:E9. Right-align cells C3 and D3. Apply a dotted middle horizontal and bottom border to cells B3:D8.
6. Move the label in cell B1 to cell A1 and center it across the appropriate selection of cells. Set landscape orientation and horizontal centering. Add a footer.
7. On the **BulkCosts** sheet, click cell C6. Key = and click cell B6. Press **[F4]** three times to make the column reference absolute. Key \* and click cell C5. Press **[F4]** two times to make the row reference absolute. Press **[Enter]**.



#### REVIEW

Drag across three column headings to select them and then set the width.

8. Copy the formula in cell C6 to cells C7:E14.
9. Use the ROUND function by following these steps:
  - a. Copy cells A6:B14 to cells A19:A27. Copy cells C5:E5 to cells C18:E18.
  - b. Click cell C19 and click the **Formulas** tab.
  - c. Click the Math & Trig button  and choose **ROUND**.
  - d. Click cell C6 for the **Number** box. Click in the **Num\_digits** box and key **0**. Click **OK**.
  - e. Copy the formula in cell C19 to cells C20:E27.


**NOTE**

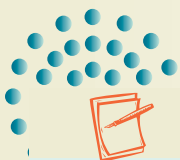
The formula multiplies the cost per unit by a quantity of 10500 units.

10. Format cells C6:E14 and cells C19:E27 as **Accounting**. Apply **Tan, Background 2** fill to every other row, starting at rows 6 and 19.
11. Center the main labels across the data and center the page horizontally.

12. Add a header using a 9-point font for each section.
13. Prepare and submit your work. Save and close the workbook.

**Exercise 8-16****Use date and time arithmetic.**

1. Open **PTWorkers** and save it as *[your initials]8-16* in your Lesson 8 folder.
2. On the **Status** sheet, key **=today()** in cell A20. Edit cell A5 to show your first and last name.

**NOTE**

Subtract the hire date from today to determine how long an employee has worked at the shop.


3. Use date arithmetic by following these steps:
  - a. Click cell C4 and key **=** to start the formula.
  - b. Click cell A20 and press **[F4]**.
  - c. Key **-** and click cell B4. Press **[Enter]**.
  - d. Click cell C4 and press **[Ctrl]+[1]**. Choose **Number** as the **Category** and use 2 decimal places. Click **OK**.
  - e. Copy the formula in cell C4 to cells C5:C8.
  - f. Click cell D4, key **=**, and click cell A20. Press **[F4]**.
  - g. Key **-** and click cell B4. Key **)/365.25** and press **[Enter]**.
  - h. Format cell D4 as **Number** with 2 decimal places.
  - i. Copy the formula in cell D4 to cells D5:D8.

**REVIEW**

The subtraction is enclosed in parentheses, so it is calculated first.

4. Format cells D4:D8 as 12-point Calibri.
5. Insert a column at column A and a row at row 1. Set an **Outline** border for cells A1:F10. Set dashed middle horizontal and bottom borders for cells B5:E9.
6. Select cells B2:E3 and use **Center Across Selection**. Right-align the labels in row 4.




7. Click the Microsoft Office Button  and hover at **Print**. Choose **Print Preview**. Click to select **Show Margins**. Drag the left margin marker to set a 1-inch margin.

8. On the **PartTimeHours** sheet, replace Tom Santana's name (C6 and C12) with your first and last name.

9. Use time arithmetic by following these steps:

- Click cell D5, key **=**, and click cell C5.
- Key **-** and click cell B5.
- Key **) \* 24** and press **Enter**.
- Copy the formula in cell D5 to cells D6:D15.

10. Center the labels in cells A1:A2 across the data.

11. Click the Microsoft Office Button  and choose **Excel Options**. On the Advanced pane, click to deselect **Show a zero in cells that have zero value** in the **Display options for this worksheet** group. Click **OK**.

12. Press **Ctrl+P** and then press **Alt+W**. Click to select **Show Margins**. Drag the left margin marker to set a 1.50-inch margin.


13. Prepare and submit your work. Save and close the workbook.

## Exercise 8-17

Use **ROUND**. Create nested functions.

1. Open **CASupplies**. Save it in your Lesson 8 folder as **[your initials]8-17**. Change to the **Flow** document theme.

2. Use **ROUND** and create a nested function by following these steps:

- Click cell B18. Click the **Formulas** tab. Click the **Math & Trig** button  and choose **ROUND**.
- In the **Number** argument box, click the arrow with the **Name Box** and choose **AVERAGE** again. The suggested range is B4:B17 for **Number1**.
- Click cell B4 and drag to select cells B4:D17 as the **Number1**.
- In the formula bar, click anywhere in **ROUND**.
- Click in the **Num\_digits** box and key **0**. Click **OK**.

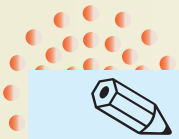
3. Use **ROUND** and key a nested function by following these steps:

- Click cell B19. Key **=rou** and press **Tab**.
- Key **aver** and press **Tab** to start the nested function.
- Select cells E4:E17 and key a comma to separate the arguments.
- Select cells F4:F17 and key **)** to close the **AVERAGE** function.
- Key **,** to start the **Num\_digits** argument.
- Key **0)** to complete the **ROUND** function. Press **Enter**.



### NOTE

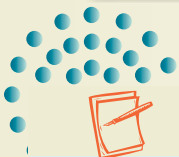
Subtract the start time from the finish time to determine hours worked.



### TIP

You can set a worksheet to show or hide zeros.

Math & Trig ▾



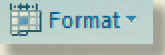
### NOTE

If **AVERAGE** is not in the Name Box list, click **More Functions** and find it in the Statistical or Most Recently Used category.

4. Use either method to determine the average number of sundae cups ordered (columns G:I).
5. Format cells A1:A2 as 18-point Calibri. Format the labels in row 3 as Constantia 10-point. Apply **Comma Style** with 0 decimal places to all values.
6. Select the cells for cones ordered, and apply conditional formatting that shows the top five values in bold text with gray fill.
7. Click the **Page Layout** tab and the Dialog Box Launcher in the **Page Setup** group. On the **Page** tab, choose **Landscape** and **Fit to** 1 page wide by 1 page tall. On the **Header/Footer** tab, click **Custom Footer**. Prepare a footer.
8. Prepare and submit your work. Save and close the workbook.

## Exercise 8-18

### Insert a hyperlink.

1. Open **CACount** and save it as *[your initials]8-18* in your Lesson 8 folder.
2. Insert a hyperlink by following these steps:
  - a. Right-click cell G1 and choose **Hyperlink**.
  - b. Click in the **Text to display** box and key **Show Supplies Sheet**.
  - c. Click the **Existing File or Web Page** in the **Link to** list.
  - d. Find **CASupplies**, click the filename, and click **OK**.
3. On the Home tab, click the Format button . Choose **Hide & Unhide** and then **Unhide Sheet**. Click **CustCount (2)** in the list and click **OK**. Repeat these steps to unhide **CustCount (3)**.
  4. Add the same hyperlink to each of these sheets.
  5. Group the sheets, right-click the column B heading, and hide it.
  6. Click the **Page Layout** tab and open the **Page Setup** dialog box. Set landscape orientation. Add a header from this dialog box.
7. Prepare and submit your work. Save and close the workbook.



#### NOTE

This hyperlink will open a file. You cannot insert a hyperlink on grouped sheets.

## Lesson Applications

### Exercise 8-19

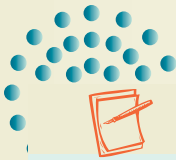
Use date arithmetic. Create a nested function.

1. Open **PastDue** and save it as *[your initials]8-19*.
2. Select cells C4:C15. Replace all occurrences of “2005” with the current year. If, after replacing, some dates are in the future, change those cells to the same date but last year.



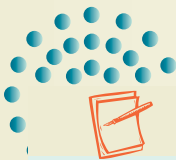
#### TIP

You can limit a Find and Replace task to selected cells.



#### NOTE

Some customers might be very late, and some might show a negative number of days, meaning bills are not yet due.



#### NOTE

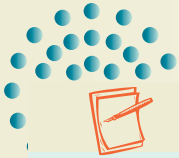
Headings and Gridlines are options on the Page Layout tab as well as on the Sheet tab in the Page Setup dialog box.

3. In cell D4, key a formula to compute the due date 30 days after the invoice date. Copy the formula.
4. In cell E4, use a formula to subtract cell D4 from today. Format the result with no decimal places and negative numbers in red with no parentheses and no minus sign. You may not have negative numbers at this point. Copy the formula.
5. In cell F4, create an IF formula. The first logical test is that cell E4 be greater than 120 days. If this is so, the **Value\_if\_true** is **Over 120**. As the **Value\_if\_false**, nest another IF function. The logical test for the second IF function is that cell E4 be greater than 60. The **Value\_if\_true** for this IF statement is **Over 60**. The **Value\_if\_false** entry for the second IF statement is **Acceptable**. Right-align the results, and copy the formula.
6. Add a footer. Set a left margin to place the sheet more centered on the page.
7. Make a copy of the sheet. Hide columns A:C and display the formulas. Set this sheet to print **Headings**.
8. Prepare and submit your work. Save and close the workbook.

### Exercise 8-20

Use time arithmetic.

1. Create a new workbook and save it as *[your initials]8-20*.
2. Choose the **Urban** document theme. In cell A1, key **Klassy Kow Parkland Shop**. Key **Part-Time Hours** in cell A2.

**NOTE**

When the time is on the hour, you do not need to key the colon or the zeros. Excel inserts them and capitalizes AM and PM.

3. In cell B3:D3, key the following labels.

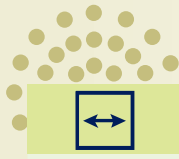
**Starting Time    Ending Time    Hours Worked**

4. In cell A4, key **Monday**.

5. Key the data shown in the figure below.

**Figure 8-13**

	<b>A</b>	<b>B</b>	<b>C</b>
<b>5</b>	Keiko Yang	11 am	8:30 pm
<b>6</b>	Eugene Sanchez	12 pm	10 pm
<b>7</b>	Millie Hanes	9:30 am	4 pm
<b>8</b>	Michael Bianciotto	10 am	5:30 pm
<b>9</b>	Aneta Monroe	2 pm	10 pm

**REVIEW**

Convert a fraction of a day to hours by multiplying by 24.

6. In cell D5, key a formula to determine hours worked. Format the result as a **Number** with two decimal places. Copy the formula.

7. Format the sheet in an attractive, easy-to-read style. Add a header.

8. Prepare and submit your work. Save and close the workbook.

**Exercise 8-21**

**Use date arithmetic. Use the INT function.**

1. Create a new workbook and save it as *[your initials]8-21*. Set the **Metro** document theme.
2. Key **Klassy Kow New Employees** in cell A1. Key **Birthday and Age** in cell A2.
3. Key these labels in cells A3:C3.
 

**Name    Birthday    Age**
4. In cells A4:A10, key the first and last names of six persons. Use classmates' or family members' names, or create new names.
5. Key birth dates in column B for each of your employees. Format the birthdays in a date format of your choice.

**TIP**

Nest the formula to determine age within the INT function.

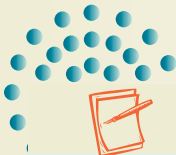
6. Key a formula that determines the person's age as an integer.
7. Format your worksheet in a professional manner. Add a header or footer.
8. Copy the worksheet to prepare a formula sheet.
9. Prepare and submit your work. Save and close the workbook.

## Exercise 8-22 ♦ Challenge Yourself

### Create a nested function.

A nested IF statement in this worksheet determines the state with the maximum value for each product.

1. Open **JulyDrinks**. Save it as *[your initials]8-22*.

**NOTE**

Do not include the Totals column as you check for the highest sales.

2. In cell G5, start an IF function. Click cell B5 for the **Logical\_test**, key = after **B5**, and nest the **MAX** function after the equal sign. Select cells B5:E5 as **Number1** for the MAX function.

3. Click anywhere in the word **IF** in the formula bar. Key **California** in the **Value\_if\_true** box. Your function states that "California" will be displayed in cell G5 if the value in cell B5 is the maximum value in the range B5:E5.

4. In the **Value\_if\_false** box, nest a second **IF** function. For the **Logical\_test**, click cell C5, key = after **C5**, and nest the **MAX** function with cells B5:E5 as **Number1**. If California is not the maximum value, the function will test if cell C5 (Washington) is the maximum.

5. Click in the second occurrence of **IF** in the formula bar. In the **Value\_if\_true** box, key **Washington**. "Washington" will be shown in cell G5 if the value in cell C5 is the maximum value in the range B5:E5.

6. In the **Value\_if\_false** box, nest a third **IF** function. The **Logical\_test** is **D5 =MAX(B5:E5)**. Click in the third occurrence of **IF**, and key **Oregon** in the **Value\_if\_true** box.

7. In the **Value\_if\_false** box, key **Nevada**. If the value in cell B5, C5, or D5 is not the maximum value, then Nevada is. Click **OK**.

8. Center the results and copy the formula to row 9. Add a **Top and Double Bottom** border to cells B10:F10.

9. Select cells B5:E5 and set a conditional formatting top/bottom rule to show the largest value in bold. Repeat this for each item.

**NOTE**

The structure of the nested IF function does not require a logical test for the Nevada value.



**TIP**

Use the Page Setup dialog box to remove horizontal setting and fit the page.

10. Set the page to be horizontally centered. Add a footer.
11. Copy the worksheet and display the formulas. Hide rows 1:3 and fit the columns to the visible data. Remove the horizontal centering, and fit this sheet to one landscape page.
12. Prepare and submit your work. Save and close the workbook.

## 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 8-23

In a new workbook, key your name and the names of three family members in a column. In the next column, key birth dates for this year for each person. In the third column, calculate the number of days until the person's next birthday. Select a document theme and use your own format choices to make the worksheet attractive. Add a footer. Save the workbook as *[your initials]8-23*. Prepare and submit your work.

### Exercise 8-24

Open **PerfRating** and review the nested IF function in column E to determine how an increase is calculated. Make a copy of the sheet and delete the contents of column E and re-create the nested IF function. Format the sheet in a professional way. Add a footer and save the workbook as *[your initials]8-24*. Prepare and submit your work.

### Exercise 8-25

Create a new workbook with a list of 10 persons' first names in column A. In column B, key each person's height in inches. In column C, use an IF formula to show "Tall" if the person is 72 inches or more, "Average" if the person is between 63 and 71 inches, and "Short" if the person is less than 62 inches tall. Add labels and format the sheet with your own design. Add a header. Save the workbook as *[your initials]8-25*. Prepare and submit your work.