

Exercise 8

Remodeling Costs

Planning a remodeling project usually starts with an estimation of costs that will be incurred. Choose a room to remodel and then create a worksheet to keep track of remodeling costs.

- Create a new workbook.
- Enter the data and apply formatting using the Urban theme as shown below:

	A	B	C
1	Remodeling Costs Worksheet		
2			
3	Items	Cost	
4		Estimated	Actual
5			
6			
7			
8			
9			
10	Subtotal		
11	Taxes		
12	Total		

- Save the workbook naming it Remodeling Costs.
- In the Items column, list all the items required to complete the remodeling project. More rows may need to be added.
- In the Estimated column, estimate and enter the costs associated with each item.
- In the Estimated column, enter a formula that uses a function to calculate the Subtotal.
- In the Estimated column, enter a formula to calculate the Taxes based on the appropriate tax rate.
- In the Estimated column, enter a formula to calculate the Total costs.
- Use the Internet or catalogs to research the actual cost associated with each item. Enter the costs in the Actual column.
- Enter formulas to calculate the Subtotal, Taxes, and Total of the Actual column.
- Format columns B and C as currency with 2 decimal places.
- Sort the items and corresponding costs in descending order by actual cost.
- Add your name in a header and the current date in a footer. Add gridlines and headings.
- Save the modified Remodeling Costs and print a copy.
- Display the formulas in the cells instead of values. Print a copy.

Exercise 9

Coral Employees

The accountant for Coral county has decided to use a worksheet for the city hall payroll.

- Create a new workbook.
- Enter the data and apply formatting using the Equity theme as shown below:

	A	B	C	D	E
1	Coral County Employees				
2					
3	First Name	Last Name	Salary		
4	Sang	Wong	\$89,000		
5	Jill	Grossman	\$37,000		
6	Jason	Jones	\$36,500		
7	Christa	Smith	\$64,500		
8	Tanya	White	\$28,900		
9					

- Save the workbook naming it Coral Employees.
- Employees are paid weekly. In cell D3, enter the label *Weekly Pay* and format it appropriately. Enter formulas that use cell references to calculate the weekly pay for each employee. Weekly pay is calculated by dividing the annual salary by 52 (the number of weeks in a year).
- In cell B9, enter the label *Average* and then right align the label and format it as italic. In cells C9 and D9, enter formulas that use a function to calculate the average salary and average weekly pay for the employees. Format the average weekly pay as currency with 2 decimal places.
- Modify the weekly pay formulas to use a function to round the weekly pay amounts in column D to 0 decimal places (do not round the average weekly pay formula). The average weekly pay also changes because the numbers have been rounded.
- Coral County has hired two more employees. Insert the new data shown below into the worksheet so that the employee names remain in alphabetical order by last name:

First Name	Last Name	Salary
Dedra	Roberts	\$28,000
Philip	Jorge	\$52,000

Copy the weekly pay formula for the new employees into the appropriate cells.

- Tax deductions are calculated by multiplying 15% by the weekly pay when the salary is less than \$30,000, and 28% by the weekly pay when the salary is equal to or higher than \$30,000. In column E, enter the label *Taxes* and then enter formulas that use a function and cell references to calculate the taxes. Right align the label and format the values as currency with 2 decimal places.
- Social security deductions also need to be calculated. Insert two blank rows at the top of the worksheet. In cell A1, enter the label *Soc. Sec. Rate.*. In cell B1, enter the value 6%. In cell F5, enter the label *Soc. Sec.*, right align it, and then enter formulas that use absolute and relative cell references to calculate social security of each employee by multiplying the rate by the weekly pay.
- Net pay is computed by making the necessary deductions from the weekly pay. In column G, enter the label *Net Pay*, right align it, and then enter formulas that use cell references to deduct the taxes and social security from the weekly pay of each employee to get the net pay.

- k) The employees of Coral County receive yearly bonuses based on the position they hold. Wong, Smith, and Jorge are managers. The rest of the employees are assistants. Insert a column after the salary column, and enter the label Position. Enter the appropriate position for each person, either Manager or Assistant and center align the entire column.
- l) Every year, managers receive a bonus of 20% of their weekly pay and assistants receive a bonus of 10% of their weekly pay. In column I, enter the label Bonus, right align it, and enter formulas that use a function and cell references to calculate the bonus amounts for each employee.
- m) Format all the data appropriately. Change the column widths so that all the data is displayed entirely and fits on one page.
- n) Add your name in a header and the current date in a footer. Add gridlines and headings.
- o) Save the modified Coral Employees and print a copy.
- p) Display the formulas in the cells instead of values. Print a copy.

Exercise 10

Theater Attendance

A local theater wants to use a worksheet to keep track of the attendance for their performances for the last two years.

- a) Create a new workbook.
- b) Enter the data and apply formatting using the Metro theme as shown below:

	A	B	C	D
1		Students	Adults	Senior Citizens
2				
3	<i>Romeo and Juliet</i>	356	125	89
4	<i>Othello</i>	259	98	175
5	<i>Bus Stop</i>	289	125	112

- c) Save the workbook naming it Theater Attendance.
- d) Rename Sheet1 to 2008 Attendance and rename Sheet2 to 2009 Attendance.
- e) Copy all the labels from the 2008 Attendance sheet into the 2009 Attendance sheet, pasting them into the same cell locations. Change the column widths as necessary so that all the data is displayed entirely.
- f) Enter the attendance for 2009 into the 2009 Attendance sheet:

	A	B	C	D
1		Students	Adults	Senior Citizens
2				
3	<i>Romeo and Juliet</i>	389	255	110
4	<i>Othello</i>	188	145	175
5	<i>Bus Stop</i>	97	112	99

- g) Rename Sheet3 to Total Attendance and copy all the labels from the 2009 Attendance sheet into the Total Attendance sheet, pasting them into the same cell locations. Change the column widths as necessary so that all the data is displayed entirely.

- h) In the Total Attendance sheet, enter formulas that use cell references to the first two sheets to calculate:
- the total number of students, adults, and senior citizens attending Romeo and Juliet
 - the total number of students, adults, and senior citizens attending Othello
 - the total number of students, adults, and senior citizens attending Bus Stop
- i) In the 2008 Attendance, the 2009 Attendance, and the Total Attendance sheets, add your name in a header and the current date in a footer. Add gridlines and headings to all three sheets.
- j) Save the modified Theater Attendance and print a copy of the entire workbook.
- k) In the 2008 Attendance sheet, the 2009 Attendance sheet, and the Total Attendance sheet, display the formulas in the cells instead of values. Print a copy.

Exercise 11 ————— Estimated Candle Sales, CANDLE MEMO

The CANDLE MEMO document contains sales figures which can be copied into a new workbook to ask What If? questions. Open CANDLE MEMO, which is a Word data file for this text, and complete the following steps:

- a) Create a new workbook.
- b) Place a copy of cell items and sales figures from the CANDLE MEMO document in the new workbook starting in cell A1.
- c) Apply an appropriate theme and cell styles. Right align the October, November, and December labels. Size columns as necessary so that all the data is displayed entirely.
- d) Save the workbook naming it Estimated Candle Sales.
- e) In cell A8, enter the label Total and format the label as bold and right align it. In row 8, enter formulas that use a function to total the sales for each month.
- f) In cell E1, enter the label Q4 Total. In column E, enter formulas that use a function to total the fourth quarter sales for each item. Fourth quarter sales are calculated by summing the October, November, and December sales.
- g) Insert a row at the top of the workbook. In cell F1, enter the label Expected Quarter 1 Sales and format the label as bold.
- h) In cell F2, enter the label 3% Increase and in cell G2 enter the label 8% Increase.
- i) The sales manager wants to know the expected sales for the first quarter of next year if the first quarter sales increase 3% from the fourth quarter totals. In column F, enter formulas that use cell references to calculate the expected first quarter sales for each item if there is a 3% sales increase.
- j) The sales manager wants to know the expected sales for the first quarter of next year if the first quarter sales increase 8% from the fourth quarter totals. In column G, enter formulas that use cell references to calculate the expected first quarter sales for each item if there is an 8% sales increase.
- k) Format the values in columns F and G as currency with 0 decimal places. Size the columns as necessary so that all the data is displayed entirely.

- l) In cell A11, insert a hyperlink to the CANDLE MEMO document.
- m) Add your name in a header and the current date in a footer. Add gridlines and headings.
- n) Save the modified Estimated Candle Sales and print a copy in landscape orientation with gridlines and headings.

Exercise 12 Automobile Lease, Buy vs Lease

Many automobile dealers offer the option of leasing rather than purchasing an automobile. When leased, a car is owned by the agency holding the lease and the user pays a monthly fee for the use of the car. Most leases are set for a fixed time, for example four years, and a maximum number of miles the car may be driven, usually in the range of 12,000 to 15,000 miles per year. If the car is driven in excess of this limit an additional fee per mile is charged. At the end of the lease the car must be returned to the lease holder.

The leasing price is usually determined by taking the purchase price of the car minus the estimated value of the car at the end of the lease and then adding an interest charge. The advantage of a lease is that a low or no down payment is usually required, but the disadvantage is that it is usually more expensive to lease than to own a car. Owning is almost always better if you plan to keep the car for an extended period of time, well over the four year lease time. It is important to realize that when you purchase an automobile you own it—the car is yours, and may be sold by you at any time. When you lease a car you are in effect renting it.

- a) Develop a plan for a worksheet that compares the cost of leasing versus purchasing an automobile.
- b) Use the Internet, newspapers, or local automobile dealer to research the cost associated with buying and with leasing a particular automobile.
- c) Create a new workbook and enter the appropriate data, formulas, and formatting.
- d) Save the workbook naming it Automobile Lease.
- e) Use Word to create a document named Buy vs Lease that briefly describes the automobile and explains whether leasing or buying would be a better decision. Include the data from the Automobile Lease workbook to support the decision.
- f) Add a footer with your name centered.
- g) Save and then print the Buy vs Lease document.

Exercise 13

Marathons

A running club wants to use a worksheet to keep track of marathon results.

- Create a new workbook.
- Enter the data and apply formatting using the Median theme as shown below. Use the Format Cells dialog box to format the times as Time in a format similar to 13:30:55:

	A	B	C	D	E
1	Marathon	Floyd	Abby	Eric	Katina
2					
3	Pensacola	3:29:07	3:42:54	3:22:12	5:03:23
4	National	3:38:27	3:50:05	3:20:44	5:12:54
5	Boston	3:42:01	3:40:08	3:40:29	4:49:41
6	Shiprock	3:30:17	4:22:33	3:22:28	4:44:04
7	Bayshore	3:45:01	4:12:09	3:44:38	4:39:10
8	Manitoba	3:49:22	4:18:06	3:23:52	4:27:58

- Save the workbook naming it Marathons.
- In cell A9, enter the label **Avg. Time**. Format the label as bold and right aligned. Enter formulas that use a function to calculate the average time for each runner.
- Pats's times need to be added to the worksheet. The following are the times for Pat: 4:06:01, 4:06:33, 4:46:24, 4:01:59, 3:56:04, and 3:49:54. Insert a column between columns D and E, and then enter the values and an appropriate column heading. Copy the average formula to cell E9.
- In rows 10 and 11, enter formulas that use functions to calculate the fastest time and slowest time for each runner (remember the fastest time is the lowest time). Include appropriate labels and bold and right align the labels.
- Add your name in a header and the current date in a footer. Add gridlines and headings.
- Save the modified Marathons and print a copy in landscape orientation.
- Display the formulas in the cells instead of values. Print a copy.

Exercise 14

DANCE

The DANCE workbook contains income and expenses information for a dance. The dance coordinator wants to know how much profit the dance will make depending on the number of people attending. Open DANCE, which is an Excel data file for this text, and complete the following steps:

- In cell C4, enter a formula that uses cell references and an absolute cell reference to calculate income from tickets.
- Copy the formula in cell C4 to cells C5 and C6.
- In cell C8, enter a formula that uses cell references and an absolute cell reference to calculate the ticket printing.
- Copy the formula in cell C8 to cells C9 and C10.
- In cell C11, enter a formula that uses functions to calculate the profit (total income less total expenses).
- Add a scenario named 100 Attendees for 100 people attending the dance.

- g) Add a scenario named 200 Attendees for 200 people attending.
- h) Create a scenario summary.
- i) On the Scenario Summary sheet, add your name in a header and the current date in a footer.
- j) Save the modified DANCE and print a copy of the Scenario Summary sheet.

Exercise 15 Random Table Placement

The RAND() function returns a random real number greater than or equal to 0 and less than 1. To generate a random real number between a specified range, the formula $=\text{RAND}()*(\text{high}-\text{low})+\text{low}$ is used. In this exercise, random numbers will be used to create random table placements for workshop participants.

- a) Create a new workbook.
- b) Enter the data and apply formatting using the Office theme as shown below:

	A	B
1	Random Table Placement	
2		
3	Participant	Table Number
4	Heidi	
5	Matthew	
6	Jaden	
7	Cherisma	
8	Zoltan	
9	Rashida	

- c) Save the workbook naming it Random Table Placement.
- d) In cell B4 enter the formula $=\text{ROUND}((\text{RAND}()*(10-1)+1),0)$ to generate a random number between 1 and 10, which will be the participant's table number.
- e) Copy the formula in cell B4 to cells B5 through B9.
- f) To recalculate the table numbers, press the F9 key. A new set of random numbers is generated.
- g) Add your name in a header and the current date in a footer.
- h) Save the modified Random Table Placement and print a copy.

Exercise 16 Function Exploration

This chapter introduced functions. Use Excel Help to explore functions further.

- a) Research a function not covered in this chapter. Use Word to create a document that explains the function in your own words. Print a copy.
- b) Create a worksheet that uses the function in a formula.
- c) Add your name in a header and the current date in a footer.
- d) Save the worksheet naming it Function Exploration and print a copy.