# HOUR **12**

# **Adding** a Chart

The highlights of this hour are as follows:

- Reasons for using a chart
- The chart elements
- The chart types
- · How to create charts with the Chart Wizard
- How to work with charts
- How to format charts
- How to pull a pie slice from a chart

This hour provides complete instructions for creating Excel charts. First, you get a brief overview of the charting process. After this, you get an explanation of some basic charting terminology used throughout the rest of the hour and in Excel's commands and options. Details about creating charts follow.

At the end of this hour, you'll realize that Excel's charting capabilities give you a lot of control in how you can present data.

## Why Use a Chart?

Rather than using only a worksheet to represent data, you can create a chart to represent the same data. For example, you might want to create a chart and print the chart and worksheet together for a presentation. That way, your audience can easily see trends in a series of values. Ŷ

If you change any data in the specified chart range, Excel will update the chart accordingly, to reflect the new data in the worksheet. Perhaps you want to track the sales trends of several products with a line chart. Make as many "what if?" projections as you want in the worksheet by increasing and decreasing the values. As you change the values in the worksheet, Excel updates the chart instantly. Excel's charts let you view the sales trends in a picture representation onscreen and the numbers in the worksheet simultaneously, making your sales forecasting more efficient.

Charting is really simple to do. Don't let all the charting commands and options make you think otherwise.

## **Chart Elements**

Before you begin to create charts, you need to be familiar with the chart elements shown in Figure 12.1. Take a few moments to look over the elements of a chart. Figure 12.1 shows a basic column chart with various elements identified.

Table 12.1 lists the chart terms and provides an explanation of each chart element that you need to keep in mind when you're working with charts.

Element	What It Is
Data series	The bars, pie wedges, or other elements that represent plotted values in a chart. Often, the data series corresponds to rows of data in your worksheet.
X-axis	The number of elements in a series. For most two-dimensional charts, categories are plotted along the Category (X) axis, which is usually horizontal. Categories generally correspond to the columns that you have in your chart data, with the category labels coming from the column headings.
Y-axis	For most two-dimensional charts, data values are plotted along the Value (Y) axis, which is usually vertical. The y-axis reflects the values of the bars, lines, or plot points. In a two-dimensional bar chart, the axes are reversed, with the values being plotted on the x-axis and the categories on the y-axis. In a 3D chart, the z-axis represents the vertical plane, and the x-axis (distance) and y-axis (width) represent the two sides on the floor of the chart.
Legend	The element that designates the separate categories of a chart. For example, the legend for a column chart shows what each column of the chart represents.
Gridlines	The lines that depict the x-axis and y-axis scale of the data series. For example, major gridlines for the y-axis help you follow a point from the x- or y-axis to identify a data point's exact value.



FIGURE 12.1 Chart elements.

Category (X) axis

## **Types of Charts**

The most common chart types include pie, bar, column (default), line, and area. Table 12.2 lists these chart types, their descriptions, and how you would use them.

#### **Excel's Chart Types TABLE 12.2**

Chart Typ	Chart Type Description/How to Use It							
Pie	Plots only one category of data, but each wedge of the pie represents a different data series. Use this chart to show the relationship among parts of a whole.							
Bar	Horizontal representations of column charts, often called histograms. Use this chart to compare values at a given point in time, emphasizing the performance of a group of items. Often, different patterns are not required for bar chart data series.							
Column	Similar to a bar chart; use this chart to emphasize the difference between items over a period of time. Columns make it easy to compare the values of items in each category. Column charts are best for comparing two or more items.							

(	Chart Type	Description/How to Use It
1	Line	Use this chart to emphasize trends and the change of values over time, showing how one or more items have changed over time. Lines emphasize the change, not the com- parison of one item to another. Also useful for plotting numerous categories of data for multiple data series.
1	Area	Similar to the line chart and stacked column chart in that an area chart shows how items combine to form a total. Use this chart to emphasize the amount of change in values, providing a more dramatic representation of the change in values over time.

#### TABLE 12.2 continued

Most of these basic chart types also come in 3D. A standard, flat chart is professional looking, but a 3D chart can help your audience distinguish between different sets of data. When you choose a chart type and a chart subtype, you can display, in a professional manner, interesting and meaningful results based on your worksheet data.

## **Creating Charts with the Chart Wizard**

One of the terrific features in Excel is the Chart Wizard. The easiest way to create a chart in Excel is to use the Chart Wizard. The Chart Wizard leads you step by step through the task of creating a chart. Excel plots the data and creates the chart where you specify on the worksheet.

Creating charts with the Chart Wizard is a snap because you get help every step of the way. You are guided through four dialog boxes from which you create your chart: Chart Type, Chart Source, Chart Options, and Chart Location. You can preview the sample chart in all the steps and make changes to the chart at any time.

You can select data before you create a chart, or if you don't select anything and your worksheet is relatively simple, Excel grabs the data automatically. You begin with Excel's default (or automatic) chart and then modify it to your liking. With so many chart types and options, you have carte blanche for creating a chart that best suits your needs.

All charts start out basically the same. You have to create a basic chart with Excel's automatic settings before you can create more customized charts. If desired, you can modify the basic chart, using various tools. The first task is to select the data you want to chart. The second task is to bring up the basic chart.

#### Selecting the Chart Type and Subtype

You can choose a chart type from the Chart Type list and then choose a chart subtype from the Chart Subtype gallery in a Chart Wizard dialog box. A description of the chart type appears in the lower-right side of the Chart Wizard dialog box when you click a chart subtype.

#### **Choosing the Data Range and Series**

To control the orientation of your chart, you choose the data range and then plot a series in rows or columns. Sometimes when Excel produces a chart from a highlighted range, the chart is backward. The data series appears where categories should be and vice versa. How does Excel know which orientation to use? Well, Excel makes a guess based on your selected data. If you have more columns than rows, the columns become the categories on the x-axis. If you have more rows than columns, the rows become categories along the x-axis.

You can always change Excel's orientation for a chart if Excel guesses wrong. Here's how you can change the orientation. Choose to plot your data in rows if you want the rows to be translated into data series and columns into categories. The rows option is best used when the selected data range contains more columns than rows. In the Chart Wizard—Step 2 of 4—Chart Source Data dialog box, you select the Rows option.

In some instances, you can create a chart by plotting your data in columns, which turns your columns into data series and rows into categories. This situation would occur when you have more rows than columns.

The chart's appearance depends on your choice, so make sure you choose a setup that fits your needs best.

When you select a range for the chart, be sure to include the labels such as the months of the year and the categories at the beginning of each. However, do not select the totals in rows or columns.

#### **Setting Chart Options**

All kinds of chart options are available for your chart, including titles, axes, gridlines, legend, data labels, and data table. These are the tabs in the Chart Wizard—Step 3 of 4—Chart Options dialog box. Here's where you can add descriptive text to the chart if you like. For example, you can add labels to the Category (X) axis along the bottom of the chart and Value (Y) axis labels along the left side of the chart.

#### Choosing a Location for the Chart

In the final Chart Wizard dialog box, you can specify where you want to place the chart. You have two choices: As New Sheet and As Object In. The As New Sheet option lets you insert the chart on a separate chart sheet. A chart sheet is a separate element from the worksheet and is stored in the current workbook.

The As Object In option enables you to insert the chart as an object in the worksheet that contains the data you're charting. A chart object on a worksheet is useful for showing the actual data and its graphic representation side by side.

The first To Do in this hour helps you create a default chart (clustered column chart) using the Chart Wizard. The chart will be an embedded chart because Excel draws the chart on the same worksheet as the data. In the case where you are charting the totals, select only the totals in the row or column and not data that create them.

#### To Do: Create a Chart with the Chart Wizard

- 1. Select cells A3:D8 on the Summary sheet of the Sales 1st Qtr workbook to identify the range you want to chart.
- 2. Click the Chart Wizard button on the Standard toolbar. The Chart Wizard—Step 1 of 4—Chart Type dialog box opens, displaying the chart types. The Clustered Column chart is the default chart type. You want to use this chart type.



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When you create a chart, make sure the range you select includes the labels, but not the totals in rows or columns.

- 3. Click the Next button to accept the Clustered Column chart type, and the Chart Wizard—Step 2 of 4—Chart Source Data dialog box should appear with a sample chart.
- 4. If you leave the Columns option selected, each column or data series represents the values for each product category by month. Hard Volume, Soft Cover, Audio Cassette, Web Site, and CD are the Category (X) axis labels. The month category names appear in the legend for the data series. The clustered column chart in Figure 12.2 shows the data series plotted by columns, which compares each product category by month. The chart is backward because you have more columns than rows. As a result, the columns become the categories on the x-axis. The Columns option is not a good choice. Instead, you want to compare each month by product categories. To do this, you need to plot the data series by rows rather than columns.



#### FIGURE 12.2

The Chart Wizard— Step 2 of 4—Chart Source Data dialog box, plotting data in columns.

- 5. Select the Rows option (as shown in Figure 12.3). Each column or data series represents the values for each month by product category. January, February, and March are the Category (X) axis labels. The product category names Hard Volume, Soft Cover, Audio Cassette, Web Site, and CD appear in the legend for the data series.
- 6. Click the Next button. Excel displays the Chart Wizard—Step 3 of 4—Chart Options dialog box. The dialog box contains a sample chart and options for adding titles, changing the legend, and formatting other elements in the chart.

To return to a previous Chart Wizard dialog box while using the Chart Wizard, click the Back button. To go to the next Chart Wizard dialog box, click the Next button. You can stop the process of creating a chart by clicking the Cancel button in any Chart Wizard dialog box.



- 7. On the Titles tab, click the Chart Title text box and type **Sales 1st Quarter**. Excel bolds the chart title text.
- 8. Click the Next button. You should see the Chart Wizard—Step 4 of 4—Chart Location dialog box. You can place the chart on a separate chart sheet or as an object in an existing worksheet. A chart sheet is a separate element from the worksheet and is stored in the current workbook. Keep the As Object In option and Summary sheet selected.
- 9. Click the Finish button. The chart appears near the top of the worksheet. The chart has a plot area with data series columns, and a legend on the right. Selection handles surround the border of the chart. You also should see the Chart toolbar. Sometimes the Chart toolbar does not always automatically appear when the chart is displayed. Figure 12.4 shows the clustered column chart and the Chart toolbar.





A chart is handled as an object in an Excel worksheet, and so you can move and resize the chart, just as you would any object in Excel.

To move a chart on a worksheet, click anywhere in the chart to select it and then hold down the left mouse button. When the mouse pointer changes to a four-headed arrow, drag the chart to a new place.

To change the size of a chart, select the chart and then drag one of its handles (the black squares that border the chart). Drag a corner handle to change the height and width or drag a side handle to change only the width.

When you save the worksheet, Excel saves the chart along with it. Unless you remove it, this chart appears on the worksheet. You can remove a chart by clicking it and then pressing the Delete key.

#### Working with Charts

Now that you know how to create a chart in Excel, you're ready to discover how you can customize and modify your charts. Excel lets you control most of the chart's elements, including the axes, chart text, and series patterns and colors.

The Chart toolbar is very useful for making changes to charts. When working with charts, you frequently add data labels to a chart to further describe the data in each data

series. You decide on the elements of your chart, such as whether to show or hide a legend and gridlines, select a different chart type to fit your needs, and re-order a chart's data series.

Before you can change anything on a chart, you must select the chart. Click anywhere on the chart. You should see selection handles (black squares) surrounding the chart, which indicate that the chart is selected.

In addition, Excel's chart commands require that you select the element on the chart that you want to change before making any changes. An element can be the entire chart, the plot area, a data series, or an axis. The command you select then applies to only the selected elements on the chart.

You can select an element by simply clicking the element in the chart or by choosing a chart element from the Chart Objects list on the Chart toolbar. Excel then displays selection boxes around the element. At this point, you can customize the chart with the chart tools on the Chart toolbar or with the commands in the menu bar.

#### Working with the Chart Toolbar

After you create a chart, you can use various chart tools to edit and format the chart. You can use the Chart toolbar to change legends, gridlines, the x-axis, the y-axis, background, colors, fonts, titles, labels, and much more. Figure 12.5 shows the tools on the Chart toolbar.



Table 12.3 lists the tools on the Chart toolbar and describes what they do.

	Chart Tool	What It Does
_	Chart Objects	Lets you select a chart object that you want to change.
	Format Selected Object	Lets you format the selected object.
	Chart Type	Changes the chart type.
	Legend	Adds or removes a legend.

<b>TABLE 12.3</b>	Chart T	oolbar	Tools
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TABLE 12.3 conti
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Chart Tool	What It Does
Data Table	Inserts a data table on the chart.
By Row	Plots the data by rows.
By Column	Plots the data by columns.
Angle Clockwise	Changes the text so that it slants downward.
Angle Counterclockwise	Changes the text so that it slants upward.



If you don't see the Chart toolbar, select View, Toolbars, Chart. If the Chart toolbar is docked next to the Standard or Formatting toolbar, point to the Chart toolbar (not on a button) and drag it into the worksheet area so that it's near the chart.

OK

#### Labeling Data Elements in the Chart

You can add data labels above data series and data points on your chart. To do so, simply select the data series on the chart or in the Chart Objects list on the Chart toolbar. For example, you would choose Series "Hard Volume" in the Chart Objects list.

Next click the Format Data Series button on the Chart toolbar. Excel opens the Format Data Series dialog box. Click the Data Labels tab, as shown in Figure 12.6. This tab offers data label options that include Series Name, Category Name and Value. The options that are grayed out are not available for this chart type.



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Choose the Data Label type Value, and then click OK. Excel adds the data labels to your chart. Each data series bar for "Hard Volume" should show a value above it, as shown in Figure 12.7.



#### **Deciding on the Elements of Your Chart**

A chart legend describes the data series and data points; it provides a "key" to the chart. By default, Excel adds a legend to the chart, and it already knows which chart labels make up the legend (the data series labels in the first column of the chart range). Keep in mind that a pie chart does not need a legend, but by default Excel inserts one, anyway.

You can hide the legend, if you so desire. To do so, click the Legend button on the Chart toolbar. Excel makes the legend disappear from the chart. To display the legend, simply click the Legend button on the Chart toolbar again.

The default location for a legend is on the right side of the chart. But you can change the placement of the legend by clicking on it and dragging it. Among the standard locations for the legend are the bottom, corner, top, right, and left side of the chart. Experiment to get the results you want. Figure 12.8 shows the legend in the upper-right corner of the chart.

Gridlines are another chart element. A grid appears in the plot area of the chart and is useful for emphasizing the vertical scale of the data series. You can remove the gridlines by clicking on a gridline on the chart and then pressing the Delete key. Excel removes the gridlines from the chart. You can display them again by clicking the Undo button on the Standard toolbar. Figure 12.9 shows a chart without gridlines.

#### FIGURE 12.8

A legend in the upperright corner of the chart.

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A chart without gridlines.

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#### Selecting a Different Chart Type

Excel offers a myriad of chart types for presenting your data. You'll find that certain chart types are best for certain situations. To change to a different chart type, select your chart and click the Chart Type down arrow on the Chart toolbar. A palette of chart types appears, as shown in Figure 12.10. Click any chart type. Excel transforms your chart into that chart type. Experiment with chart types until you get the chart that best suits your needs.



#### **Re-ordering Chart Series**

You can change the order of the chart series. To do so, click a data series on the chart. Click the Format Data Series button on the Chart toolbar. The Format Data Series dialog box appears. Click the Series Order tab, as shown in Figure 12.11. Choose the data series in the Series order list that you want to move and click the Move Up or Move Down button to move the series in the list. Click OK. Excel places the data series on the chart in the order you specified.



#### FIGURE 12.11 The Series Order tab in the Format Data Series dialog box.

## **Chart Formatting Techniques**

Many people like to change the chart colors, lines, patterns, and styles of the data series for special effects. Although Excel's default colors and patterns help to distinguish one data series from another, you might find some colors and patterns more attractive than others. For example, you might want to remove all patterns and use only color.

The vertical axis in a chart is referred to as the Value axis. Excel automatically scales the value axis for your charts to best fit the minimum and maximum values being charted. The values along the vertical (Y) or horizontal (X) axis are set with minimum and maximum values, as well as a number of intermediate points along the axis. These intermediate points are called major units and minor units. You can choose from a number of axis and tick-mark formats to change the appearance of an axis.

You can change the view of a 3D chart by using the Chart, 3-D View command. The view options let you adjust the elevation and rotation of the chart.

Excel places category labels next to the horizontal axis along the bottom of the chart. If you're not satisfied with the category labels that go with your chart, you can change them. You can angle the text upward or downward.

#### Changing Chart Colors, Lines, Patterns, and Styles

Most of the color, line, pattern, and style options in the Format Axis dialog box are selfexplanatory. But here are some highlights if you want the real lowdown on the options. If you have a color printer, keep in mind that the patterns have two parts: the foreground and the background. Each part can be a different color. The foreground is the pattern itself, and the background is the color on which the pattern is drawn. Experiment with the foreground and background colors to see how these work. Note that the solid pattern (the first pattern in the list) provides the solid version of whichever foreground color you choose.

The Patterns tab is divided into two groups for data series—Border options and Area options—which might require some explanation. The Border options affect the perimeter of the selected element, including the style, color, and thickness of the border line. The Area options control the inside of the element, such as its color and pattern.

The Automatic option tells Excel to take care of choosing the colors and patterns.

Perform the steps in the next To Do to change chart colors, lines, patterns, and styles for the Category (X) axis so that you can spice up your chart.

#### To Do: Change the Chart Colors, Lines, Patterns, and Styles



- 1. Select the chart by clicking anywhere on it. You should see the Chart toolbar.
- 2. Click the Chart Objects down arrow on the Chart toolbar. A list of chart objects appears.
- 3. Choose Series Soft Cover.
- 4. Click the Format Data Series button on the Chart toolbar. The Format Data Series dialog box appears.
- 5. Click the Patterns tab, as shown in Figure 12.12. You can use the Border and Area options to change the color, patterns, lines, and styles for the border and area of your data series. The Sample box shows the current color of the data series. You want to change it.



If you want to remove all patterns from the chart and use only colors for the data series, select the solid pattern for each data series.

- 6. In the Area color palette, click the Bright Pink color patch, in the fourth row, first column.
- 7. Click OK to apply the new color to the Soft Cover data series. You should see bright pink bars on your chart.





#### Formatting an Axis

The Axis options include the style, color, and weight of the axis line. The Tick Mark Type options involve styles for the major and minor tick marks on an axis. The Tick Labels options control the appearance of the scale numbers that appear along the Value (Y) axis.

OK

Cancel

The next exercise demonstrates how to format the Value (Y) axis scale by adding dollar signs to the numbers.

#### To Do: Format a Chart Axis

- 1. Select the chart by clicking anywhere on it. You should see the Chart toolbar.
- 2. Click the Chart Objects down arrow on the Chart toolbar. A list of chart objects appears.
- 3. Choose Value Axis.
- 4. Click the Format Axis button on the Chart toolbar. The Format Axis dialog box appears. Here's where you can change the patterns, scale, font, numbers, and alignment for an axis.
- 5. Click the Number tab. This tab contains options for changing the number formats for the vertical axis.
- 6. Choose Currency in the Category list.

To Do

- 7. Change the number of decimal places to 0 by clicking the down arrow twice in the Decimal places box. In the Symbol list, select the dollar sign (\$), as shown in Figure 12.13.
  - 8. Click OK. Excel applies the format to the vertical axis, which changes to reflect the values you set. You should see dollar signs next to the numbers.
- 9. To move the chart, click it and drag it so that it starts in row 11.

FIGURE 12.13	Format Axis
The Number tab in the Format Axis dialog box.	Petterns     Scale     Font     Number     Alignment       Category:     Sample     Sample       General     \$2,000     Pecial places:     Pecial places:       Outency     Symbol:     Symbol:       Time     \$ymbol:     Percentage       Fraction     \$1,224     \$1,224       Special     \$1,224     \$1,224       Special     \$(\$1,234)     \$1,224
	Lipked to source Currency formats are used for general monetary values. Use Accounting formats to align decimal points in a column.

#### **Changing Chart Views**

If you have a 3D chart, you can change the way you view it by using Excel's 3-D View command. To change the view of a 3D chart, select the chart and choose Chart, 3-D View. The 3-D View dialog box opens, as shown in Figure 12.14.



3-D View	$\mathbf{X}$
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Rotation: 20	Auto scaling Right angle axes Height: 100 % of base
Default	OK Close Apply

Click the large up or down arrow to change the elevation of the chart. Click the large rotation buttons to rotate the chart. Then click OK. Excel changes the view of your 3D

chart. If you don't care for the results, repeat the steps to change the elevation and rotation until you get the view you want.

#### Using Rotated Text on a Chart

If you want to rotate the category text labels along the bottom of the chart, you can angle them upward or downward. By default, Excel angles Category axis labels upward.

To rotate text for category text labels, in the Chart Objects list on the Chart toolbar choose Category Axis. Click the Angle Clockwise or Angle Counterclockwise button on the Chart toolbar. Excel slants the text along the x-axis in the direction you chose. Figure 12.15 shows category text labels angled downward.



## **Creating a Pie Chart**

You can use a pie chart to show the relationship or proportion of parts to a whole. Each slice of the pie shows what percent that slice contributes to the total, which is 100%. A good example of a pie chart is comparing the January sales to the other months in the Sales 1st Qtr workbook.

The next exercise shows you how to create a pie chart on a separate sheet using the Chart Wizard. The pie chart will show the relationship between the total sales amounts for each month on the Summary sheet in the Sales 1st Qtr workbook.



#### To Do: Create a Pie Chart

1. Select cells B3:D3 on the Summary sheet of the Sales 1st Qtr workbook to identify the month names you want to chart. Hold down Ctrl and select cells B9:D9 to identify the range of data that determines the size of the slices in the pie.



The month names will identify the slices and are called *category names*. The three months will create three pie slices and are called the *data series*.

- 2. Click the Chart Wizard button on the Standard toolbar. The Chart Wizard—Step 1 of 4—Chart Type dialog box opens, displaying the chart types. Click Pie in the Chart type list. The Pie chart subtype is the one you want.
- Click the Next button to display the Chart Wizard—Step 2 of 4—Chart Source Data dialog box. You should see a sample of the pie chart and the chart data range. A marquee surrounds the ranges you selected on the Summary sheet.
- 4. Leave the Rows option selected. Each cell in the row or data series represents the values for each month. January, February, and March are the x-axis category names that appear in the legend for the data series.
- Click the Next button. Excel displays the Chart Wizard—Step 3 of 4—Chart Options dialog box. The dialog box contains a sample pie chart and chart options.
- 6. On the Titles tab, click the Chart Title text box and type Three-Month Net Income. Excel automatically bolds the chart title.
- 7. Click the Legend tab and then click Show Legend to remove the check mark from the check box. Excel displays the pie chart without a legend.
- 8. Click the Data Labels tab. In the Label Contains section, check the Category name and Percentage check boxes. Excel redraws the pie chart with data labels and percentages.
- Click the Next button. You should see the Chart Wizard—Step 4 of 4—Chart Location dialog box. To place the chart on a separate chart sheet, click the As New Sheet option. In the text box, type Sales Pie Chart to name the sheet tab in the workbook.
- 10. Click the Finish button. Click the Close button on the Chart toolbar to hide the toolbar. The pie chart appears on a separate chart sheet in the Sales 1st Qtr workbook, as illustrated in Figure 12.16.



#### Making the Pie Chart 3-D Style

**FIGURE 12.16** 

To enhance a pie chart with a 3-D visual effect, right-click anywhere on the pie chart, and choose Chart Type. Excel displays the Chart Type dialog box. In the Chart subtype palette, row 1, column 2, select the pie chart called Pie Chart with a 3-D visual effect. Then click OK. The pie slices with a 3-D visual effect should now pop out more on the chart sheet (see Figure 12.17).

#### Pulling a Pie Slice from a Chart

To emphasize a data series in a pie chart, you can pull a pie slice away from the pie chart. To do so, click the desired pie slice. Then hold down the left mouse button and pull out the selected slice. Figure 12.17 shows the pie slice pulled from the pie chart.

Let's move the Sales Pie Chart sheet tab so that it appears after the Summary sheet tab. To do so, click and drag the Sales Pie Chart sheet tab to the right of the Summary sheet tab.



## Summary

This hour gave you a complete education on Excel's powerful charting capabilities. You did a fine job going through all the exercises and grasping the chart skills you need to create professional-looking charts in your worksheets.

In the next hour, you are shown how to make other types of charts in Excel, such as organization charts, picture charts, and geographical data maps.

## Q&A

## Q When I created a chart, I selected the totals row and didn't get the results I wanted. How can I fix this?

- A When you create a chart, make sure the range you select includes the labels, but not the totals. If you are charting the totals, be sure to select only the total rows, and not the data that created them.
- Q My chart is plotted in rows and looks different from what I expected. What should I do next?
- A Sometimes when Excel produces a chart from a highlighted range, the chart is backward. The data series appears where categories should be, and vice versa. Excel makes a guess based on your selected data. If you have more columns than rows, the columns become the categories on the x-axis. If you have more rows than

columns, the rows become categories along the x-axis. To change the chart so that it is plotted in columns, select the chart and click the By Column button on the Chart toolbar.

- Q How can I make the plot area larger so that I can easily see the data series in the chart?
- A Simply click the chart to select it, point to a corner selection handle, and drag the chart's corner border diagonally until you see the plot area better.
- Q The Chart toolbar doesn't display with my chart. What should I do?
- **A** If you don't see the Chart toolbar, select View, Toolbars, Chart. If the Chart toolbar is docked next to the Standard or Formatting toolbar, point to the Chart toolbar (not on a button) and drag it into the worksheet area so that it's near the chart.

#### Q Do I need a legend for my pie chart?

- A No. A pie chart does not need a legend, but by default Excel inserts one anyway. A legend describes the data series and data points; it provides a "key" to the chart (bar chart, column chart, line chart, and so on). To remove the legend, click the Legend button on the Chart toolbar.
- Q Is there a way to change a chart on a chart sheet to an object so that it's next to my worksheet data?
- A Certainly. Click the chart sheet tab, and click the Chart Wizard button on the Standard toolbar. In the final Chart Wizard dialog box, choose As Object In. This option enables you to insert the chart as an object in the worksheet that contains the data you're charting. Click the Finish button. Excel removes the chart sheet and displays the chart object on the worksheet.