Excel Tutorial 4: Enhancing a Workbook with Charts and Graphs

TRUE/FALSE

1. Every chart must have a data source.

   ANS: T   PTS: 1   REF: EX 170

2. When selecting a data source for a pie chart, select all rows and columns, including total rows and columns.

   ANS: F   PTS: 1   REF: EX 174

3. By default, embedded charts display the chart and any text or figures on separate pages.

   ANS: F   PTS: 1   REF: EX 170

4. Charts include individual elements that can be formatted, including the chart area, the chart title, the plot area, data markers, and a legend.

   ANS: T   PTS: 1   REF: EX 177

5. A chart style is similar to a cell style or a table style in that it formats several chart elements at one time.

   ANS: T   PTS: 1   REF: EX 177

6. To change a border color on a chart, click the Color button to open the color palette.

   ANS: T   PTS: 1   REF: EX 180

7. In pie charts with legends, it's best to make the slice colors as similar as possible.

   ANS: F   PTS: 1   REF: EX 183

8. Although 3-D charts are visually attractive, they can obscure the relationship between the values in the chart by making it difficult to see which slice is larger.

   ANS: T   PTS: 1   REF: EX 211

9. You can rotate a 3-D chart along the x-axis, y-axis, and z-axis.

   ANS: F   PTS: 1   REF: EX 209 - EX 210

10. In Excel, charts do not remain linked or connected to their data sources if they appear in different worksheets.

    ANS: F   PTS: 1   REF: EX 202

11. One of Edward Tufte's most important works is *The Visual Display of Quantitative Information* in which he laid out several principles for the design of charts and graphics.

    ANS: T   PTS: 1   REF: EX 219

12. When data bars are used with negative values, the date bars originate from the center of the cell with negative bars extending to the left and positive bars extending to the right.

    ANS: T   PTS: 1   REF: EX 217

13. Excel has a built-in format to display four-digit year values, so you do not need to create one.

    ANS: F   PTS: 1   REF: EX 196

14. Excel allows you to overlay a legend on a chart as a space-saving option.

    ANS: T   PTS: 1   REF: EX 192

15. Sparklines differ from data bars in that the sparklines are always placed in the cells containing the value they represent and each cell represents only a single bar from the bar chart.

    ANS: F   PTS: 1   REF: EX 216

16. Line charts are best suited for representing data that follows some sequential order.

    ANS: T   PTS: 1   REF: EX 194

17. If you cannot find the right chart to meet your needs, Excel allows you to create a custom chart based on the built-in chart types.

    ANS: T   PTS: 1   REF: EX 209

18. Embedded charts can be moved and resized.

    ANS: T   PTS: 1   REF: EX 175

19. The lengths of data bars are based on the value of each cell in the selected range.

    ANS: T   PTS: 1   REF: EX 216

20. Chart sheets show both charts and worksheet data.

   ANS: F   PTS: 1   REF: EX 175

MODIFIED TRUE/FALSE

1. After you select the <u>data source</u>, Excel determines the series name, series values, and category values based on the data source. _____

   ANS: T   PTS: 1   REF: EX 173

2. The <u>series name</u> has only one data series. _____

   ANS: F, data source

   PTS: 1   REF: EX 173

3. A <u>color</u> bar is a conditional format that adds a horizontal bar to the background of a cell containing a numeric value. _____

   ANS: F, data

   PTS: 1   REF: EX 192

4. Pie charts are most effective with <u>ten</u> or fewer slices. _____

   ANS: F
   6
   six

   PTS: 1   REF: EX 174

5. By default, Excel inserts a chart as an <u>embedded</u> chart. _____

   ANS: T   PTS: 1   REF: EX 175

6. You can quickly change the appearance of the entire chart by selecting a different chart style in the Chart <u>Design</u> gallery. _____

   ANS: F, Styles

   PTS: 1   REF: EX 177

7. To <u>explode</u> a pie chart slice, select that slice and then drag it away from the pie. _____

ANS: T   PTS: 1   REF: EX 184

8. When you create sparklines, clicking any cell in the <u>data</u> range selects all of the sparklines in the group. _____

    ANS: F, location

    PTS: 1   REF: EX 215

9. To resize the chart, drag a <u>sizing</u> handle, which is a square or dot on the selection box that is used to change the object's width and height. _____

    ANS: T   PTS: 1   REF: EX 176

10. The sparkline axis is simply a <u>horizontal</u> line that separates positive values from negative values. _____

    ANS: T   PTS: 1   REF: EX 215

11. Because of the compactness of sparklines, you can specify only the line color and the <u>line leader</u> color. _____

    ANS: F, marker

    PTS: 1   REF: EX 214

12. To create a set of sparklines, you first select a data <u>range</u> containing the data you want to graph. _____

    ANS: T   PTS: 1   REF: EX 212

13. In a pie chart, the largest piece of pie represents the data series with the <u>smallest</u> value. _____

    ANS: F
    largest
    highest

    PTS: 1   REF: EX 175

14. Extreme viewing angles in a 3-D chart may elongate the chart and <u>misrepresent</u> the data. _____

    ANS: T   PTS: 1   REF: EX 211

15. If you want to represent the following data: 20%, 25%, 15%, 17%, and 23%, a <u>pie</u> chart will best highlight the differences among the close in value data. _____

ANS: F
column
bar

PTS: 1   REF: EX 184

MATCHING

Identify the letter of the choice that best matches the phrase or definition.

a.	Bubble	g.	Doughnut
b.	Column	h.	Bar
c.	XY	i.	Surface
d.	Line	j.	Area
e.	Radar	k.	Stock
f.	Pie	l.	Scatter

1. Compares values from different categories. A value is indicated by the height of each ____.
2. Often used to show trends and changes over time
3. Compares relative values of different categories to the whole. A value is indicated by the area of a(n) ____
4. Compares values from different categories. A value is indicated by the length of the ____
5. Compares values from different categories. Areas under the lines contain a fill color
6. Shows patterns or relationship between two or more sets of values. Often used in scientific studies and statistical analyses.
7. Displays stock market data
8. Compares three sets of values in a three-dimensional chart
9. Similar to the pie chart except that it can display multiple sets of data
10. Similar to the Scatter chart except the size of the data marker is determined by a third value
11. Another term for Scatter chart
12. Compares a collection of values from several different data sets

1. ANS: B   PTS: 1   REF: EX 174
2. ANS: D   PTS: 1   REF: EX 174
3. ANS: F   PTS: 1   REF: EX 174
4. ANS: H   PTS: 1   REF: EX 174
5. ANS: J   PTS: 1   REF: EX 174
6. ANS: L   PTS: 1   REF: EX 174
7. ANS: K   PTS: 1   REF: EX 174
8. ANS: I   PTS: 1   REF: EX 174
9. ANS: G   PTS: 1   REF: EX 174
10. ANS: A   PTS: 1   REF: EX 174
11. ANS: C   PTS: 1   REF: EX 174

12. ANS: E   PTS: 1   REF: EX 174

MULTIPLE CHOICE

1. For which of the following reasons would you choose to use a chart or graph?

a.	To organize information in columns and rows
b.	To show trends or relationships across data
c.	To present data using text only
d.	To add color to a report

ANS: B   PTS: 1   REF: EX 170

2. The ____ is not a component of a data series.

a.	series name	c.	category name
b.	series value	d.	category value

ANS: C   PTS: 1   REF: EX 170

3. Referring to the figure above, if you were to create a Fund Assets pie chart using the information in A1:B7, the data source for that chart would be ____.

a.	A2:A6	c.	A1:B5
b.	B2:B6	d.	A2:B6

ANS: D   PTS: 1   REF: EX 170

4. Referring to the figure above, an example of a ____ name is row 9.

a.	data series	c.	data label
b.	series name	d.	series label

ANS: B   PTS: 1   REF: EX 170

5. The words Information, Services, an Manufacturing shown in Column A are the ____.

a.	data series	c.	series value
b.	data source	d.	series source

ANS: A   PTS: 1   REF: EX 170

6. The ____ is the only one of the following charts to compare relative values from different categories to the whole.

a.	pie	c.	line
b.	column	d.	area

ANS: A   PTS: 1   REF: EX 174

7. To work with a title or other individual element of a chart, select the ____ tab.

a.	Design	c.	Format

b.		Layout	d.		Print

ANS: B　　　　PTS: 1　　　　REF: EX 175

8. The ____ Chart Tools contextual tabs appear on the Ribbon when you select a chart.

a.	Insert, Layout, and Design	c.	Insert, Design, and Format
b.	Design, Layout, and Format	d.	Format, Print, and Layout

ANS: B　　　　PTS: 1　　　　REF: EX 175

9. The ____ dialog box provides options for moving charts between worksheets and chart sheets.

a.	Insert New	c.	Move Chart
b.	Tab	d.	Change Chart

ANS: C　　　　PTS: 1　　　　REF: EX 175

10. Placing a chart in a ____ displays only the chart and no worksheet cells.

a.	new worksheet	c.	graph display
b.	tabbed view	d.	chart sheet

ANS: D　　　　PTS: 1　　　　REF: EX 175

11. Excel supports the following three types of sparklines that does NOT include ____.

a.	A win/loss sparkline for highlighting positive and negative values
b.	A column sparkline used for column charts
c.	A line sparkline for highlighting trends
d.	a true/false sparkline for helping make decisions

ANS: D　　　　PTS: 1　　　　REF: EX 212

12. To move or resize an embedded chart, ____.

a.	select the chart and drag the selection box
b.	drag the sizing handle on the selection box
c.	select the chart and press Tab
d.	both a and b

ANS: D　　　　PTS: 1　　　　REF: EX 176

13. The columns and pie slices in the charts above are ____.

a.	data markers	c.	major tick marks
b.	chart areas	d.	minor tick marks

ANS: A   PTS: 1   REF: EX 171

14. Referring to the figure above, the rectangular area to the right of the pie chart (listing Cash, U.S. Stocks, Non-U.S. Stocks, and Bonds) is the ____.

a.	perspective	c.	legend
b.	plot area	d.	data marker

ANS: C   PTS: 1   REF: EX 171

15. Referring to the figure above, in the column chart, the values along the left side (0.00%, 5.00%, etc.) are ____.

a.	plot markers	c.	data markers
b.	plot marks	d.	tick marks

ANS: D   PTS: 1   REF: EX 171

16. Referring to the figure above, the entry 54.94%, shown next to the largest pie slice, is a ____.

a.	data label	c.	legend
b.	chart key	d.	series value

ANS: A   PTS: 1   REF: EX 171

17. Referring to the figure above, the chart title for the pie chart is ____.

a.	Fund Assets	c.	54.94%
b.	Sector Percentages	d.	Cash

ANS: A   PTS: 1   REF: EX 171

18. Depending on the pie chart layout you choose, you can ____.

a.	hide or display the chart title	c.	add percentages to pie slices
b.	display a chart legend	d.	all of the above

ANS: D   PTS: 1   REF: EX 178

19. To reposition the legend to the left-hand side of a chart, click the Legend button, and then click ____.

a.	Reposition Legend	c.	Move Legend
b.	Show Legend at Left	d.	Adjust Legend

ANS: B   PTS: 1   REF: EX 180

20. ____ is not an available formatting category for legends.

| a. | | Border Color | c. | | Shadow |
| b. | | Border Styles | d. | | Shading |

ANS: D   PTS: 1   REF: EX 181

21. ____provide descriptive text for the individual data markers, such as pie slices

| a. | | Asset labels | c. | | Data labels |
| b. | | Legend values | d. | | Leader lines |

ANS: C   PTS: 1   REF: EX 182

22. The Label Position option in the Format Data Labels dialog box includes ____.

| a. | | Center | c. | | Outside End |
| b. | | Inside End | d. | | all of the above |

ANS: D   PTS: 1   REF: EX 182

23. Since each slice of a pie represents a different value in the series, you ____.

| a. | | must format each slice separately | c. | | can format multiple slices at once |
| b. | | can format the entire data series | d. | | cannot format any single slice |

ANS: A   PTS: 1   REF: EX 183

24. To move one slice of a pie chart away from the pie creates a(n) ____.

| a. | | spontaneous pie chart | c. | | exploded pie chart |
| b. | | perfect pie chart | d. | | exponential pie chart |

ANS: C   PTS: 1   REF: EX 184

25. You already created a line chart, but now decide that you want to change this chart to a pie chart. To do this, you click ____ from the Type group in the Chart Tools Design tab.

| a. | | Change Chart Type | c. | | Alter Existing Chart |
| b. | | New Chart | d. | | Modify Chart |

ANS: A   PTS: 1   REF: EX 206

26. A 90° ____ value exaggerates the 3-D effect, making distant objects appear very small.

| a. | | angle | c. | | photo |
| b. | | perspective | d. | | rotation |

ANS: B   PTS: 1   REF: EX 210

27. You can use the 3-D Format options to add drop shadows, raised or beveled

corners, and textured surfaces that give the illusion of ____ reflecting off the chart elements.

a.	light	c.	water
b.	color	d.	shadows

ANS: A   PTS: 1   REF: EX 210

28. If you do not want a chart to reflect new values in the data source, you should ____.

a.	not create a chart	c.	paste the chart as a Picture
b.	change the default settings	d.	create the chart in Microsoft Word

ANS: C   PTS: 1   REF: EX 203

29. To display a large number of categories whose values are close to one another, you should create a ____ chart.

a.	column	c.	pie
b.	bar	d.	either a. or b.

ANS: D   PTS: 1   REF: EX 184

30. In the above figure, the data markers shown in the cells in the column labeled "Performance," are ____.

a.	data lines	c.	data bars
b.	sparklines	d.	spark bars

ANS: B   PTS: 1   REF: EX 192

31. In the above figure, the data markers shown in the cells in the column labeled "Percentages," are ____.

a.	data lines	c.	data bars
b.	sparklines	d.	spark bars

ANS: C   PTS: 1   REF: EX 192

32. The ____, shown in the figure above, include data markers to indicate the high and low points.

a.	data bars	c.	lines
b.	sparklines	d.	bars

ANS: B   PTS: 1   REF: EX 192

33. In the figure above, the value axis entries on the "Fund History" chart, are displayed with the ____ unit.

a.	tens	c.	thousands
b.	hundreds	d.	millions

ANS: C   PTS: 1   REF: EX 192

34. A ____ acts like a line on a ruler, making it easier to read a chart's scale.

a.	major tick mark	c.	category value
b.	data marker	d.	legend marker

ANS: A   PTS: 1   REF: EX 187

35. One advantage of breaking up a sparkline group is that Excel can display each sparkline based on the ____ values associated with the individual sparkline's data series.

a.	minimum	c.	both a. and b.
b.	maximum	d.	neither a. nor b.

ANS: C   PTS: 1   REF: EX 215

36. In the figure above, the date formats shown in the "Type:" window are ____.

a.	built-in formats	c.	default formats
b.	custom formats	d.	archived formats

ANS: A   PTS: 1   REF: EX 197

37. In the figure above, the entry "yyyy" shown in the "Format Code:" box is setting up a(n) ____ format to display the four-digit year.

a.	built-in	c.	default
b.	custom	d.	archived

ANS: B   PTS: 1   REF: EX 197

38. The placement of tick marks and axis labels is controlled by the area indicated by Item ____ in the above figure.

a.	3	c.	5
b.	4	d.	6

ANS: C   PTS: 1   REF: EX 183

39. In a column chart, you can ____.

a.	add a gradient fill to columns
b.	reduce gap width between columns
c.	modify the appearance of data markers
d.	all of the above

ANS: D   PTS: 1   REF: EX 189

40. Which of the following is not an option for setting units in the Axis Options portion of the Format Axis dialog box?

a.	Major unit	c.	Sub unit
b.	Minor unit	d.	Base unit

ANS: C   PTS: 1   REF: EX 196

41. In Excel, typing ____ in the Format Code: box would result in that month's full name being displayed on a chart.

a.	m	c.	mmm
b.	mm	d.	mmmm

ANS: D   PTS: 1   REF: EX 196

42. To display Mar 17, 2008 as a custom format, you would type ____ in the Format Code: box in Excel.

a.	mm dd, yy	c.	mmm dd, yyyy
b.	mmm dd, yy	d.	mm dd, yyyy

ANS: C   PTS: 1   REF: EX 196

43. Which of the following would result in adding the value 'k' to the end of each number on a chart's vertical axis?

a.	#,##0"k"	c.	#,##0k
b.	k#,##	d.	#,##0-k-

ANS: A   PTS: 1   REF: EX 199

44. Which of the following shows the correct order of steps for adding a data series to a chart?

a.	Select the chart, Click the Add button, Click the Select Data button, Select the range
b.	Select the chart, Click the Select Data button, Click the Add button, Select the range
c.	Select the range, Click the Select Data button, Click the Add button, Select the chart
d.	Select the range, Select the chart, Click the Select Data button, Click the Add button

ANS: B   PTS: 1   REF: EX 203

45. To specify the name of a new data series and its range of data values, use the ____ dialog box.

a.	Edit Series	c.	Select Series
b.	Select Data	d.	Add Data

ANS: A   PTS: 1   REF: EX 204

46. ='Trolley Schedule'!$A$2:$C$12 identifies a ____.

a.	Series data range	c.	Chart series source
b.	Column chart	d.	Chart data range

	type		

ANS: D   PTS: 1   REF: EX 213

47. From the Format Data Series dialog box, you can ____ as a Marker Option.

a.	select a built-in marker type	c.	select the size of the data marker
b.	choose a data marker type	d.	all of the above

ANS: D   PTS: 1   REF: EX 207

48. On a 3-D chart, the ____ represents the object's depth.

a.	x-axis	c.	z-axis
b.	y-axis	d.	none of the above

ANS: C   PTS: 1   REF: EX 209

49. If you select a chart's series and look at the formula bar, the formula being displayed uses the ____ function.

a.	CHART	c.	RANGE
b.	DATA	d.	SERIES

ANS: D   PTS: 1   REF: EX 205

50. Edward Tufte was concerned with what he termed as "chart ____," in which a proliferation of chart elements—chosen because they look "nice"—confuse and distract the reader.

a.	espionage	c.	confusion
b.	clutter	d.	junk

ANS: D   PTS: 1   REF: EX 219

51. Edward Tufte said that ____ ink is any part of the chart that does not convey information about the data.

a.	data	c.	information
b.	non-data	d.	non-information

ANS: B   PTS: 1   REF: EX 219

52. A column sparkline can be ____.

a.	inserted anywhere within the workbook
b.	can represent data from several rows
c.	can represent data from several columns
d.	any of the above

ANS: D   PTS: 1   REF: EX 216

53. A chart sheet can contain ____, enabling you to display several charts at once within a single sheet.

a.	multiple graphics	c.	only a single chart
b.	only one data set	d.	embedded charts

ANS: D   PTS: 1   REF: EX 219

54. Rotation options for a chart allow you to rotate the ____.

a.	x-axis	c.	perspective
b.	y-axis	d.	all of the above

ANS: D   PTS: 1   REF: EX 210

55. Which of the following represents a range of data in Excel?

a.	A2-B2	c.	A1.M4
b.	B7, C4	d.	C2:F12

ANS: D   PTS: 1   REF: EX 170

56. A(n) ____ chart is similar to a line chart, but uses a fill color to shade areas under the lines.

a.	bar	c.	stock
b.	area	d.	column

ANS: B   PTS: 1   REF: EX 174

57. Which of the following represents the pointer when it is over the resizing handle?

a.		c.	
b.		d.	

ANS: A   PTS: 1   REF: EX 176

58. In Excel charts, the Legend Options dialog box allows you to change all the following except ____.

a.	Fill	c.	Shadow
b.	Border Color	d.	Font Size

ANS: D   PTS: 1   REF: EX 181

59. If you have chosen Outside End, Percentage, and Show Leader Lines, you are setting options in the ____ box.

a.	Label Options	c.	Format Chart Area
b.	Format Legend	d.	Format Axis

ANS: A   PTS: 1   REF: EX 182

60. Because of the visual distortion that can result with 3-D charts, you should
    ____.

a.	never use a 3-D chart
b.	include data labels with all 3-D charts
c.	use a 3-D chart only for charts with many data series
d.	format all sections in similar colors

ANS: B   PTS: 1   REF: EX 211

61. With 3-D rotation, you can change a chart's ____.

a.	rotation	c.	depth
b.	perspective	d.	all of the above

ANS: D   PTS: 1   REF: EX 210

62. In the Format Axis dialog box, selecting Fixed 0.10 for the Minor Unit will
    result in ____.

a.	minor tick marks appearing at 10% intervals
b.	major tick marks appearing at 10% intervals
c.	minor tick marks automatically appearing per the data
d.	values appearing in reverse order

ANS: A   PTS: 1   REF: EX 187

63. To fill a column with a blend of colors in a column chart, you would choose
    ____ from the Fill options.

a.	picture fill	c.	no fill
b.	solid fill	d.	gradient fill

ANS: D   PTS: 1   REF: EX 189 - 190

64. Which of the following is not an option in the Fill options in the Format Data
    Series dialog box?

a.	Preset colors	c.	Angle
b.	Direction	d.	all of the above are options

ANS: D   PTS: 1   REF: EX 190

65. In Excel, Axis Options allow you to specify ____.

a.	the axis type	c.	the axis position
b.	where the vertical axis crosses	d.	all of the above

ANS: D   PTS: 1   REF: EX 196

66. Which of the following represents the pointer when it is over a blank spot in the chart legend?

a.		c.	
b.		d.	

ANS: C PTS: 1 REF: EX 200

67. To format an individual sparkline, select the sparkline you want to format, and then click the Ungroup button in the Group group on the Sparkline Tools ____ tab.

a.	Create	c.	Layout
b.	View	d.	Design

ANS: D PTS: 1 REF: EX 215

68. The first step in creating a combination chart is to ____.

a.	select a data series in an existing chart that you want to appear as another chart type
b.	click Change Chart Type in the Chart Tools Design tab
c.	select the chart type you want
d.	open a new bland spreadsheet

ANS: A PTS: 1 REF: EX 205

69. The ____ is a rectangular area that labels the markers or symbols used in a chart.

a.	x-axis	c.	chart area
b.	y-axis	d.	legend

ANS: D PTS: 1 REF: EX 171

70. To add an axis to a sparkline, click the Axis button in the ____ group on the Sparkline Tools Design tab, and then click Show Axis.

a.	Group	c.	Design
b.	Tools	d.	Chart

ANS: A PTS: 1 REF: EX 215

Critical-Thinking Case Based Questions

Case 4-1
Andy has just started a job with the school district. His director has given him the last six months of test results from four local schools. Andy has organized the results as four data series and needs to display the trends in a graphic format.

71. Andy's boss wants him to compare the values in this chart with several different data sets. Andy should prepare a(n) ____ for his boss.

a.	Radar chart	c.	Pie chart
b.	Line graph	d.	XY scatter chart

ANS: A   PTS: 1   REF: EX 174   TOP: Critical Thinking

72. It's difficult to read the exact scale on some of Andy's data. Adding ____ would make it easier to read.

a.	a legend	c.	colors
b.	major tick marks	d.	more numbers

ANS: B   PTS: 1   REF: EX 187   TOP: Critical Thinking

73. Andy has finished his chart but needs to save some space. What's the most effective way for Andy to reduce space without losing important data?

a.	Delete parts of the data	c.	Delete the title
b.	Delete the legend	d.	Overlay the legend in areas without data

ANS: D   PTS: 1   REF: EX 192   TOP: Critical Thinking

74. Andy has experimented with a few different types of charts to give his boss options for reporting the test results. In his bar chart, Andy wants to change the chart's border. To do this, he should select the ____ tab in the Chart Tools.

a.	Format	c.	Design
b.	Edit	d.	Layout

ANS: A   PTS: 1   REF: EX 175   TOP: Critical Thinking

Case-Based Critical Thinking Questions

Case 4-2
Anya has just surveyed 100 reviewers to get their reaction to a new marketing ad campaign she is heading. She has one data series that she wants to represent graphically, and she needs to display her data in a way that keeps the percent of the whole data in mind when viewing.

75. Since it's important for Anya to keep percentages of her whole reviewer base in mind, she wants to represent data as parts of a whole. What chart type would you suggest to Anya?

a.	bar	c.	scatter
b.	column	d.	pie

ANS: D   PTS: 1   REF: EX 174   TOP: Critical Thinking

76. Since Anya is still reviewing her data, she wants to make sure that her chart reflects any changes she makes in her data source. She should ____.

a.		paste her chart in as a picture
b.		do nothing since charts in Excel

		remain linked to data sources
c.		manually adjust data in a chart
d.		create a new chart each time she modifies her data

ANS: B   PTS: 1   REF: EX 202   TOP: Critical Thinking

77. Anya has decided to make her chart a 3-D chart, but her supervisor complained that he cannot see enough of the data. Anya should try to ____.

a.	raise the viewpoint of the chart by rotating along the y-axis
b.	raise the viewpoint of the chart by rotating along the x-axis
c.	spin the chart clockwise
d.	replace the chart with a bar chart

ANS: A   PTS: 1   REF: EX 210 - EX 211
TOP: Critical Thinking

78. Anya tells you that she is using a 3-D chart for the first time and asks if you have any advice for this chart type. You should tell Anya that it's especially important to ____ in 3-D charts.

a.	include data labels	c.	use a small font
b.	use bright colors	d.	detail the legend and title

ANS: A   PTS: 1   REF: EX 211   TOP: Critical Thinking

79. Anya has asked for your advice. A colleague told her to remove the legend from her pie chart, but she doesn't understand why. What would be a good reason to remove the title?

a.	Her legend isn't labeled properly.
b.	Her legend takes up too much space.
c.	When using one data series, it can be redundant to use a chart title and legend.
d.	There is no good reason. You should always have a title and legend.

ANS: C   PTS: 1   REF: EX 186   TOP: Critical Thinking

80. Anya needs to call attention to one category above all others. For this purpose, she should use a(n) ____.

a.	line chart	c.	scatter chart
b.	exploded pie chart	d.	banded chart

ANS: B   PTS: 1   REF: EX 184   TOP: Critical Thinking

COMPLETION

1. A chart or _____ is a visual representation of a set of data.

   ANS: graph

   PTS: 1   REF: EX 170

2. Excel supports _____ built-in charts.

   ANS:
   73
   seventy three
   seventy-three

   PTS: 1   REF: EX 173

3. If you add percentages to a pie chart, the percentages would appear directly on the pie slices _____ enough to fit the number, otherwise, percentages will appear next to the slices in the chart area.

   ANS: large

   PTS: 1   REF: EX 178

4. In cases where a label placed outside a pie might appear farther from its slice than is easily readable, a(n) _____ might be added to connect the data to its corresponding slices.

   ANS: leader line

   PTS: 1   REF: EX 182

5. The range of values, or _____, of an axis is based on the values in the data source.

   ANS: scale

   PTS: 1   REF: EX 187

6. You can add _____ to identify smaller intervals between the major tick marks.

   ANS: minor tick marks

   PTS: 1   REF: EX 187

7. To compare values from several categories with a sequential order, such as

dates and times occurring at evenly spaced intervals, you would use a(n) _____ chart.

ANS: line

PTS: 1   REF: EX 209

8. A chart that combines two or more chart types into a single graph is called a(n) _____ chart.

ANS: combination

PTS: 1   REF: EX 193

9. In general, _____ charts should be used only when the number of categories is small and the relative sizes of different data can be easily determined.

ANS: pie

PTS: 1   REF: EX 209

10. To plot the results of two data categories collected every month for a year, you should use a(n) _____ chart.

ANS: line

PTS: 1   REF: EX 174

11. Since scientific data is often plotting two numeric values against one another, it is oftentimes best to represent this data type with a(n) _____ chart.

ANS:
XY scatter
X-Y scatter
X Y scatter

PTS: 1   REF: EX 174

12. To create a combination chart, you select a data series in an existing chart, and then apply a new _____ to that series.

ANS: chart type

PTS: 1   REF: EX 205

13. You can add visual interest to charts by using 3-D (three _____) effects.

ANS: dimensional

PTS: 1   REF: EX 209

14. Perspective values range from 0 degrees to _____ degrees.

ANS:
90
ninety

PTS: 1   REF: EX 210

15. Each data source is a collection of _____, which is a range of values plotted as a single unit on a chart.

ANS: data series

PTS: 1   REF: EX 170

16. A(n) _____ chart shows patterns or relationships between two or more sets of values, much like an XY chart, except the size of the data marker is determined by a third value.

ANS: Bubble

PTS: 1   REF: EX 174

17. To revise the title of a chart rather than replacing it, you can _____ the chart title to place the insertion point in the text, and then edit the text as needed.

ANS:
double-click
double click

PTS: 1   REF: EX 179

18. Increasing the rotation horizontally in a 3-D chart spins the chart _____.

ANS: clockwise

PTS: 1   REF: EX 210

19. _____ identify the main units on the chart axis.

ANS: Major tick marks

PTS: 1   REF: EX 187

20. _____ extend the tick marks across the plot area.

ANS:
Gridlines
Grid lines

PTS: 1   REF: EX 187

ESSAY

1. Consider the impact of a poorly designed chart. Explain why it is important to have a well-designed chart, and name at least four tips for creating a good chart.

   ANS:
   Answers will vary. Students should cover some of the following major points.

   A well-designed chart can illuminate facts that might be hidden by viewing only numbers. However, a poorly designed chart can mislead readers, misrepresent data, and make it more difficult to interpret data.

   To create effective and useful charts:
   * Keep it simple. Do not clutter a chart with too many graphic elements.
   * Focus on the message. Design the chart to highlight the points you want to convey to readers.
   * Limit the number of data series used in the chart. Line charts and column charts should display no more than three or four data series. Pie charts should have no more than six slices.
   * Use gridlines in moderation. Gridlines should be used to provide only approximate values for the data markers.
   * Choose colors carefully. Display different data series in contrasting colors to make it easier to distinguish one series from another.
   * Limit your chart to a few text styles. Use a maximum of two or three different text styles in the same chart.

   PTS: 1   REF: EX 191   TOP: Critical Thinking

2. When selecting a chart, it's important to choose the right type of chart to represent your data. If choosing between a pie chart and a line chart, what factors would you evaluate in choosing which chart to use? How would each chart differ in representing your data?

   ANS:
   Answers will vary. Students should evidence critical thinking by including some of the following points.

   Pie charts should generally be used only when the number of categories is small and the relative sizes of the different slices can be easily determined. Pie charts compare relative value from different categories to the whole.

Values are indicated by the size of the pie slice.

Line charts are best for categories that follow a sequential order. However, line charts will distort data that occurs at irregular time intervals, making data appear to have occurred regularly. Line charts also show trends over time. Values are indicated by the height of the line.

Pie charts and line charts assume that numbers are plotted against categories.

PTS: 1   REF: EX 174 | EX 209   TOP: Critical Thinking

3. Explain when it would be appropriate to use a chart sheet and how you would go about creating one in Microsoft Excel.

ANS:
A chart sheet can contain embedded charts, allowing you to display several charts at once within a single sheet.

To create a chart sheet, click the sheet tab containing your data and select the range of data you wish to use in the chart. Click the Insert tab on the Ribbon. In the Charts group, select a chart type. In the Location group on the Chart Tools Design tab, click Move Chart. In the Move Chart dialog box, click the New sheet open button, then type the sheet name. The chart sheet with this name that contains the specified chart is inserted in the workbook. Drag the sheet tab to the right of the Documentation sheet tab.

PTS: 1   REF: EX 219 - EX 221   TOP: Critical Thinking