Test Bank

Chapter 2: The Organization and Graphic Presentation of Data

1. The sum of all proportions in a frequency distribution should sum to
a. 0.
*b. 1.
c. 100.
d. N.
Answer location: (Proportions and Percentages) p. 26
Question Type: MC

2. Frequency distributions for _____ variables are often difficult to read.
a. nominal
b. ordinal
*c. interval-ratio
d. dichotomous
Answer location: (Frequency Distributions for Interval-Ratio Variables) p. 36
Question Type: MC

3. When constructing a rate, the denominator refers to the
a. number of events or occurrences.
*b. number of persons at risk of experiencing an event or occurrence.
c. ratio of events or occurrences to the number of persons at risk of experiencing the event or occurrence.
d. product of the events or occurrences and the number of persons at risk of experiencing the event or occurrence.
Answer location: (Rates) p. 41
Question Type: MC

4. In a sample of 250 respondents, females account for three-fifths of all observations in the sample. What is the total number of males in the sample?
*a. 100
b. 150
c. 2/5
d. 3/5
Answer location: (Proportions and Percentages) p. 25
Question Type: MC

5. Which of the following is not a proportion?
a. 0.0
b. 0.5
c. 1.0
*d. 1.5
Answer location: (Proportions and Percentages) p. 25-26
Question Type: MC

6. A relative frequency obtained by dividing the frequency in each category by the total number of cases and multiplying by 100 is a…
a. count
b. frequency
c. proportion
*d. percentage
Answer location: (Proportions and Percentages) p. 26-27

Question Type: MC

7. A rate based on the total population is referred to as a(n)_____ rate.
a. actual
b. determinant
c. whole
*d. crude
Answer location: (Rates) p. 41
Question Type: MC

8. Which of the following is not a rate?
a. The number of female births per 1,000 women ages 25-29
b. The number of deaths to infants between the ages of 0 and 1 per 100,000 population
*c. The number of violent crimes committed in urban U.S. cities in between 2005 and 2007
d. The number of second marriages per 100,000 adults of marriageable age
Answer location:
Question Type: MC (Rates) p. 41

9. The sum of all frequencies in a frequency distribution should sum to
a. 0.
b. 1.
c. 100.
*d. N.
Answer location: (Frequency Distributions) p. 24
Question Type: MC

10. Which of the following variables is best suited for organization and description using a frequency distribution?
a. The monthly totals for the number of immigrants to the U.S. for the period 1958-2013.
b. Number of votes for Barack Obama in the 2012 presidential election by U.S. county.
*c. Whether or not a person received a telemarketing call during the month of September, 2013.
d. The proportion of households living in poverty for a sample of 198 U.S. neighborhoods.
Answer location: (Frequency Distributions) p. 24
Question Type: MC

11. A proportion is a
a. relative frequency obtained by dividing the total number of cases by the frequency in each category.
*b. relative frequency obtained by dividing the frequency in each category by the total number of cases.
c. number representing the total number of cases in a population.
d. distribution showing the frequency at or below each category of the variable.
Answer location: (Proportions and Percentages) p. 25
Question Type: MC

12. Inspecting the title and checking the sources are basic principles of
a. studying for an exam.

*b. reading a statistical table.
c. determining research question.
d. calculating a rate.
Answer location: (Reading the Reaserch Literature: Statistical Tables: Basic Principles) p. 42
Question Type: MC

13. What is the formula for a percentage?
a. $p=f/n$
b. $p=n/f$
*c. $p=(f/n)100$
d. $p=(n/f)100$
Answer location: (Proportions and Percentages) p. 26
Question Type: MC

14. A graph showing the differences in frequencies or percentages among the categories of a nominal or an ordinal variable where the "pieces" add up to 100% of the total frequencies is referred to as a
a. bar graph.
*b. pie chart.
c. frequency polygon.
d. histogram.
Answer location: (The Pie Chart: Race and Ethnicity of the Elderly) p. 45
Question Type: MC

15. A graph showing the difference in frequencies or percentages among the categories of a nominal or an ordinal variable where the categories are displayed as rectangles of equal width with their height proportional to the frequency or percentage of the category is referred to as a
*a. bar graph.
b. pie chart.
c. frequency polygon.
d. histogram.
Answer location: (The Bar Graph: Martical Status of the Elderly) p. 47
Question Type: MC

16. A graph showing the differences in the frequencies or percentages among the categories of an interval-ratio variable where points are used to represent the frequencies of each category and placed above the midpoint of the category and then joined by a straight line is referred to as a
a. bar graph.
b. pie chart.
*c. line graph.
d. histogram.
Answer location: (The Line Graph) p. 51
Question Type: MC

17. Which of the following graphic devices is most appropriate for displaying interval-ratio level data?
*a. A histogram
b. A frequency polygon
c. A bar graph
d. A pie chart
Answer location: (The Histogram) p. 49
Question Type: MC

18. In a _____the bars which represent the categories of a variable are spaced so that one bar is not directly next to another; whereas, in a _____ the bars actually touch one another.
*a. bar graph; histogram
b. histogram; bar graph
c. frequency polygon; bar graph
d. bar graph; frequency polygon
Answer location: (The Bar Graph: Marital Status of the Elderly) p. 47 and (The Histogram) p. 49
Question Type: MC

19. A survey of 3,055 respondents asked whether or not anyone had been widowed. Eighty persons responded yes. Which of the following graphic devices would best display this information?
a. Time series chart
b. Frequency distribution
*c. Bar graph
d. Histogram
Answer location: (The Bar Graph: Marital Status of the Elderly) p. 47
Question Type: MC

20. Imagine one of your colleagues is constructing a histogram to graph results of the survey question "Which state do you live in?" What is the concern with your colleague's approach?
a. It's unlikely that the slices of the pie sum to 100%
*b. The colleague used an inappropriate graphic device
c. The colleague hasn't ensured that the frequencies at each time point summed to *N*
d. The bars representing the categories were likely not as contiguous as they should be
Answer location: (The Histogram) p. 49
Question Type: MC

21. Imagine one of your colleagues is constructing a histogram to graph results of data collected on respondent's occupational prestige score, a score which can take on any non-zero value. What should be your first response upon reviewing the work?
a. To note whether the "slices" of the pie summed to 100%
b. To suggest that your colleague had in fact used an inappropriate graphic device
c. To ensure that the frequencies at each time point summed to *N*
*d. To check whether the bars representing the categories were contiguous as they should be
Answer location: (The Histogram) p. 49
Question Type: MC

22. Imagine one of your colleagues is constructing a pie-chart to graph results of data collected on respondent's occupational prestige score, a score which can take on any non-zero value. What should be your first response upon reviewing the work?
*a. To note whether the "slices" of the pie summed to 100%
b. To suggest that your colleague had used an inappropriate graphic device
c. To ensure that the frequencies at each time point summed to *N*
d. To check whether the bars representing the categories were contiguous as they should be
Answer location: (The Pie Chart: Race and Ethnicity of the Elderly) p. 45

Question Type: MC

23. Which of the following statements is true about time series charts?
a. Time, usually measured in months or years, is placed on the vertical axis
b. The height of the bars is proportional to the frequency or percentage of observations
*c. Frequencies or percentages are usually placed along the vertical axis
d. The changes in the variable must always increase over time.
Answer location: (Time Series Charts) p. 53
Question Type: MC

24. Fill in the empty cells in the following table

Education level	*f*	*p*	%
Completed High School	187		
Completed College	119		
Completed Graduate School	62		

Correct Answer:

Education level	*f*	*p*	%
Completed High School	187	.508	50.8
Completed College	119	.323	32.3
Completed Graduate School	62	.168	16.8

Answer location: (Proportions and Percentages) p. 25-27

25. Fill in the empty cells in the following table

Number of Marriages	*f*	*cf*	*p*	%
0		165		
1	60			
2+		250		10.0

Correct Answer:

Number of Marriages	*f*	*cf*	*p*	%
0	165	165	.660	66.0
1	60	225	.240	24.0
2+	25	250	.100	10.0

Answer location: (Proportions and Percentages) p. 25-27

26. Using the following information from the U.S. Census Bureau, calculate both the number and percentage of non-white military reserve personnel.

Military Reserve Personnel by Race,

2002	
White	73.2%
Black	15.9%
Latino	7.9%
Asian	2.3%
Native American	0.7%

The total number of military reserve personnel is 129,047.

Correct Answer:
34,585; 26.8%
Answer location: (Proportions and Percentages) p. 25-27

27. Construct a cumulative frequency distribution using the following information. Begin with whites and work through the table in the order of the racial categories listed.

Military Reserve Personnel by Race, 2002	
White	73.2%
Black	15.9%
Latino	7.9%
Asian	2.3%
Native American	0.7%

The total number of military reserve personnel is 129,047.

Correct Answer:

Military Reserve Personnel by Race, 2002	
White	94,462
Black	114,981
Latino	125,176
Asian	128,144
Native American	129,047

Answer location: (Cumulative Distributions) p. 38-41

28. According to Table 1, what proportion of respondents neither agree nor disagree?

Table 1

Homosexuals Should Have the Right to Marry, 2006		
	f	*cum %*
Strongly Agree	307	15.5
Agree	391	35.2
Neither Agree Nor Disagree	260	48.3
Disagree	329	64.9
Strongly Disagree	695	100.0

Correct Answer:.131
Answer location: (Proportions and Percentages) p. 25

29. *Table 1*
Refer to Table 1 and construct a cumulative frequency distribution. Start with those who strongly disagree and work your way down through the remaining categories.

Table 1

Homosexuals Should Have the Right to Marry, 2006		
	f	*cum %*
Strongly Agree	307	15.5
Agree	391	35.2
Neither Agree Nor Disagree	260	48.3
Disagree	329	64.9
Strongly Disagree	695	100.0

Correct Answer:

Homosexuals Should Have the Right to Marry, 2006	
	cf
Strongly Agree	307
Agree	698
Neither Agree Nor Disagree	958
Disagree	1287
Strongly Disagree	1982

Answer location:(Cumulative Distributions) p. 38-41

30. Explain how cumulative frequency distributions are obtained. What do they allow us to do?

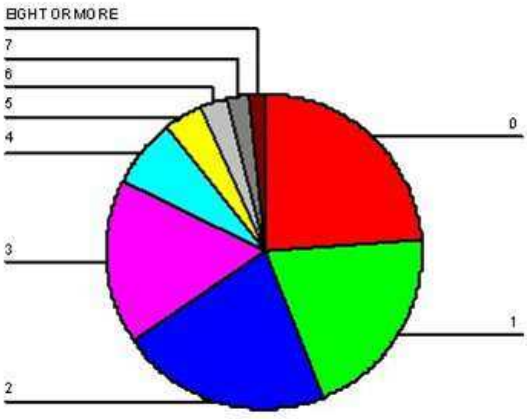
Correct Answer:
They are obtained by adding to the frequency in each category the frequencies of all the categories below it. They allow us to locate the relative position of a given score in a distribution.
Answer location: (Cumulative Distributions) p. 38-41

31. Consider the information in Table 1. Construct a pie chart for blacks in the sample.
Table 1

Number of Children	Whites	Blacks
0	903	151
1	513	126
2	872	136
3	531	105
4	282	45

5	83	25
6	51	18
7	25	13
8+	16	11

Correct Answer:



Answer location: (The Pie Chart) p. 45

32. Would a bar chart or a histogram be more appropriate for displaying the data presented in Table 1? Why?

Table 1

Number of Children	Whites	Blacks
0	903	151
1	513	126
2	872	136
3	531	105
4	282	45
5	83	25
6	51	18
7	25	13
8+	16	11

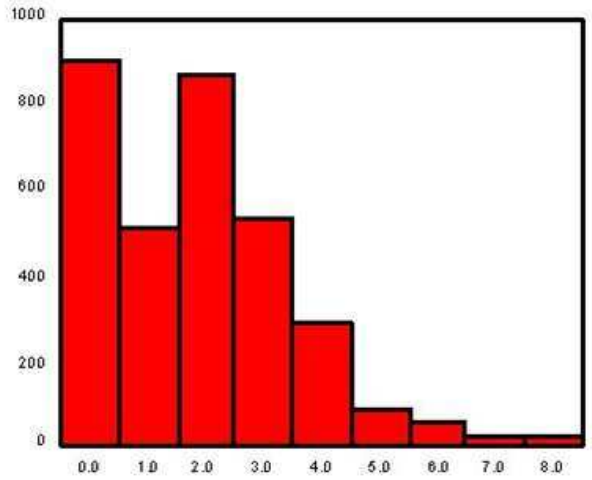
Correct Answer:
The number of children can be considered an interval-ratio level variable, therefore a histogram would be more appropriate.
Answer location: (The Histogram) p. 49-50

33. Construct either a bar chart or a histogram, depending on which is more appropriate in this case, for displaying the data presented in *Table 1*

Number of Children	Whites	Blacks
0	903	151
1	513	126

2	872	136
3	531	105
4	282	45
5	83	25
6	51	18
7	25	13
8+	16	11

Correct Answer:



Answer location: (The Histogram) p. 49-50

34. What other type of graph could be used to display the information in Chart 1?

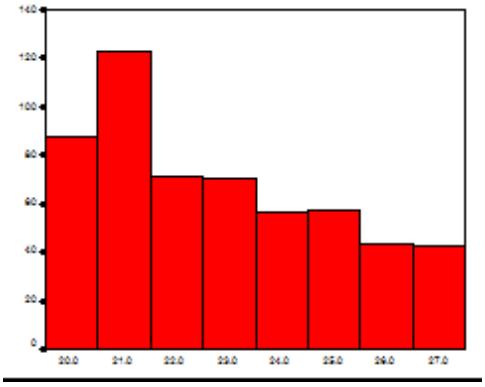
Chart 1

Correct Answer:
Histogram
Answer location: (The Histogram) p. 49-50

35. Presented below is a portion of the data for 550 respondents which were used to construct the graph presented in Chart 1. What is another type of graph that you can use to display this information? Construct this graph using the data below with the frequencies placed along the vertical axis.

Age at First Marriage	Percent (%)
20	16.0
21	22.4
22	12.9
23	12.7
24	10.2
25	10.4
26	7.8
27	7.6

Correct Answer:
Bar graph.



Answer location: (The Bar Graph) p. 47-48

36. Which graphic device would be most appropriate to display information about the following "Undocumented migration from Mexico to the United States has increased each decade from the end of the Bracero Accord in 1964 through 2005."

Correct Answer:
A time-series chart
Answer location: (Time-Series Charts) p. 52-54

37. Which graphic device would be most appropriate to display information about the following
"The sex ratio at birth - that is, the ratio to the number of males to the number of females - is 1.05 in the United States."

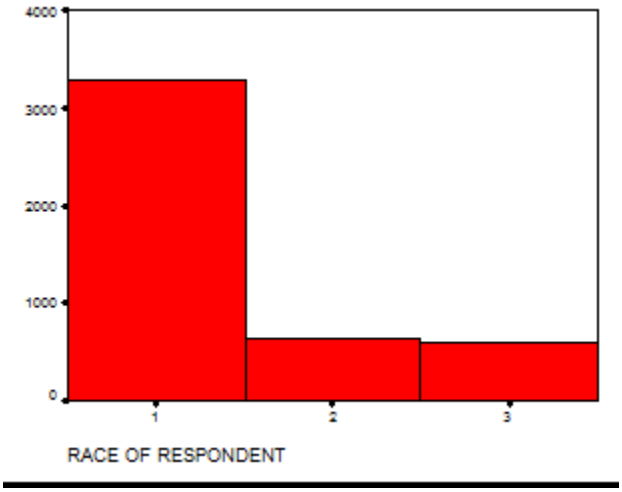
Correct Answer:A bar graph or pie chart
Answer location: (The Pie Chart) p. 45 and (The Bar Graph) p. 47

38. Explain why the following statement is true: "When constructing a pie chart, the frequencies associated with each category must sum to *N*. Likewise, if working with proportions or percentages, these must sum to 1.0 or 100% respectively."

Correct Answer:
Students should discuss the calculation of relative frequencies and show why these must sum to 1.0 and 100% respectively.
Answer location: (Propotions and Percentages) p. 25 and (The Pie Chart) p. 45

39. The following graph depicts the number of respondents by racial group, where 1=white, 2=black, and 3=other. Explain why this choice of graphic is or is not appropriate for these data?

Correct Answer:
A histogram is not appropriate for nominal data



Answer location: (The Histogram) p. 49-50