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Elementary Statistics

Period _____

Date _____

Chapter 2 Review: Summarizing & Graphing Data

<u>Use the following information to answer questions 1-3:</u> When one is constructing a table representing the frequency distribution of weights (lbs) of discarded textile items from data set 23 in Appendix B, the first two classes of a frequency distribution are 0.00-0.99 and 1.00-1.99

- 1. What is the class width?
- 2. What are the class boundaries of the first class?
- 3. If know the first class has a frequency of 51, could you identify the original 51 data values?

4. A stemplot is created from the intervals (min) between eruptions of the Old Faithful geyser in Yellowstone National Park, and one row of that stemplot is 6 | 1222279. Identify the data values represented by that row.

5. In the California Daily 4 Lottery, four digits between 0 and 9 inclusive are randomly selected each day. We normally expect that each of the ten digits will occur about 1/10 of the time, and an analysis of last year's results shows that this did happen. Because the results are what we normally expect, is it correct to say that the distribution of selected digits is a normal distribution?

6. In an investigation of the travel costs of college students, which of the following does not belong: center, variation, distribution, bar graph, outliers, changing patterns over time?

7. In an investigation of the relationship between SAT scores and grade point averages (GPA) of college students, which of the following is most helpful: histogram, pie chart, scatterplot, stemplot, dotplot?

8. As a quality control manager at Sony, you find that defective CD's have various causes, including worn machinery, human error, bad supplies, and packaging mistreatment. Which of the following graphs would be best for describing the causes of defects: histogram, scatterplot, pareto chart, dotplot, pie chart?

9. What characteristic of a data set can be better understood by constructing a histogram?

10. A histogram is to be constructed from the brain sizes listed in data set 6 of Appendix B. Without actually constructing that histogram, simply identify two key features of the histogram that would suggest that the data have a normal distribution.

11. Complete the frequency distribution of the 20 brain volumes (cu. cm.) listed below (from data set 6 in Appendix B)

1005	963	1035	1027	1281	1272	1051	1079	1034	1070
1173	1079	1067	1104	1347	1439	1029	1100	1204	1160

Brain Volume (cu. cm.)	<u>Tally</u>	Frequency	Relative Frequency
900-999			

12. Construct the histogram that corresponds to the frequency distribution from Exercise 11. Applying a very strict interpretation of the requirements for a normal distribution, does the histogram suggest that the data is from a population having a normal distribution? Why or why not?

13. Complete the cumulative frequency distribution that corresponds to the data from Exercise 11. Then construct an ogive.

<u>Brain Volume (cu.</u> cm.)	<u>Cumulative</u> Frequency

14. In the California Daily 4 lottery, four digits are randomly selected each day. Listed below are the digits that were selected in one recent week. Construct a dotplot. Does the dotplot suggest that the lottery is fair?

5 3 8 9 2 9 1 1 3 0 9 7 3 8 7 4 7 4 8 5 6 8 0 0 4 7 5 3



15. Listed below are the first eight IQ scores from data set 6 in Appendix B. Construct a stemplot of these eight values. Is this data set large enough to reveal the true nature of the distribution of IQ scores for the population from which the sample is obtained?



16. Listed below are the amounts of carbon monoxide emissions and nitrous oxide emissions in the United States for the over a 10-year period. What graph is best for exploring the relationship between carbon monoxide emissions and nitrous oxide emissions? Construct that graph. Does the graph suggest that there is a relationship between carbon monoxide emissions and nitrous oxide emissions?

Carbon	5638	5708	5893	5807	5881	5939	6024	6032	5946	6022
monoxide										
emissions										
Nitrous	351	349	345	339	335	335	362	371	376	384
oxide										
emissions										



17. According to USA Today, the largest categories of sports equipment sales are as follows: fishing (\$2.0 billion), firearms and hunting (\$3.1 billion), camping (\$1.7 billion), golf (\$2.5 billion). Construct the graph that best depicts these different categories and their relative amounts. What type of graph is best?

