Determine whether the given value is a statistic or a parameter.

1) A health and fitness club surveys 40 randomly selected members and found that the average weight of those questioned is 157 lb.

    A) Statistic   B) Parameter

1) _____

Determine whether the given value is from a discrete or continuous data set.

2) The number of freshmen entering college in a certain year is 621.

    A) Continuous   B) Discrete

2) _____

3) The height of 2-year-old maple tree is 28.3 ft.

    A) Discrete   B) Continuous

3) _____

Determine which of the four levels of measurement (nominal, ordinal, interval, ratio) is most appropriate.

4) The sample of spheres categorized from softest to hardest.

    A) Nominal   B) Ordinal   C) Ratio   D) Interval

4) _____

5) Salaries of college professors.

    A) Ratio   B) Nominal   C) Ordinal   D) Interval

5) _____

6) Nationalities of survey respondents.

    A) Nominal   B) Ratio   C) Ordinal   D) Interval

6) _____

Identify the sample and population. Also, determine whether the sample is likely to be representative of the population.

7) In a poll of 50,000 randomly selected college students, 74% answered "yes" when asked "Do you have a television in your dorm room?".

Use critical thinking to address the key issue.

8) "38% of adults in the United States regularly visit a doctor". This conclusion was reached by a college student after she had questioned 520 randomly selected members of her college. What is wrong with her survey?

Identify which of these types of sampling is used: random, stratified, systematic, cluster, convenience.

9) 49, 34, and 48 students are selected from the Sophomore, Junior, and Senior classes with 496, 348, and 481 students respectively.

10) To avoid working late, a quality control analyst simply inspects the first 100 items produced in a day.

Provide an appropriate response.

11) In a survey, 26 voters were asked their ages. The results are shown below. Construct a histogram to represent the data.

    43 56 28 63 67 66 52 48 37 51 40 60 62
    66 45 21 35 49 32 53 61 53 69 31 48 59

Use the data to create a stemplot.

12) The midterm test scores for the seventh-period typing class are listed below.
    85 77 93 91 74 65 68 97 88 59 74 83 85 72 63 79

Find the mean for the given sample data. Unless indicated otherwise, round your answer to one more decimal place than is present in the original data values.

13) Listed below are the amounts of time (in months) that the employees of a restaurant have been working at the restaurant. Find the mean.

13) _____

    1 5 7 8 12 16 18 25 57 90 99 126 136 167

    A) 59 months   B) 51.1 months   C) 54.8 months   D) 21.5 months

Find the median for the given sample data.

14) The ages (in years) of the eight passengers on a bus are listed below.

14) _____

    10 7 26 16 21 43 40 30

Find the median age.

    A) 21 yr   B) 24.5 yr   C) 26 yr   D) 23.5 yr

Find the mode(s) for the given sample data.

15) 20 42 46 42 49 42 49

15) _____

    A) 42   B) 41.4   C) 46   D) 49

Find the midrange for the given sample data.

16) 3 6 9 0 4 1 11 5 9 14 3 8 2 15 0 9

16) _____

    A) 8   B) 5.5   C) 15   D) 7.5

Find the mean of the data summarized in the given frequency distribution.

17) The test scores of 40 students are summarized in the frequency distribution below. Find the mean score.

17) _____

Score	Students
50-59	13
60-69	6
70-79	7
80-89	7
90-99	7

    A) 71.8   B) 64.6   C) 68.2   D) 74.5

Find the variance for the given data. Round your answer to one more decimal place than the original data.

18) Jeanne is currently taking college zoology. The instructor often gives quizzes. On the past five quizzes, Jeanne got the following scores:

18) _____

    17 18 1 20 13

    A) 97.4   B) 57.7   C) 57.6   D) 46.2

Find the coefficient of variation for each of the two sets of data, then compare the variation. Round results to one decimal place.

19) Compare the variation in heights to the variation in weights of thirteen-year old girls. The heights (in inches) and weights (in pounds) of nine randomly selected thirteen-year old girls are listed below.

    Heights (inches):   59.1 61.3 62.1   64.7 60.1 58.3   64.6 63.7   66.1

    Weights (pounds): 87   94   91   119   96   90   123   98   139

Find the standard deviation of the data summarized in the given frequency distribution.

20) The test scores of 40 students are summarized in the frequency distribution below. Find the standard deviation.

20)   _____

Score	Students
50-59	5
60-69	13
70-79	5
80-89	8
90-99	9

  A) 13.3   B) 14.7   C) 12.6   D) 14

Construct a boxplot for the given data. Include values of the 5-number summary in all boxplots.

21) The test scores of 32 students are listed below. Construct a boxplot for the data set.

32 37 41 44 46 48 53 55 57 57 59 63 65 66 68 69 70 71 74 74 75 77 78 79 81 82 83 86 89 92 95 99

Provide an appropriate response.

22) Describe any similarities or differences in the two distributions represented by the following boxplots. Assume the two boxplots have the same scale.
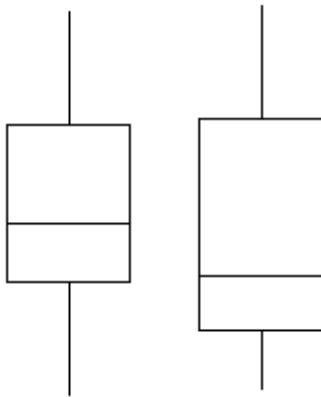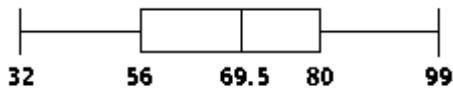
1) A
2) B
3) B
4) B
5) A
6) A
7) Sample: the 50,000 selected college students; population: all college students; representative
8) The sample is biased. College students are not representative of the U.S. population as a whole.
9) Stratified
10) Convenience
11) The approximate age at the center is 50.
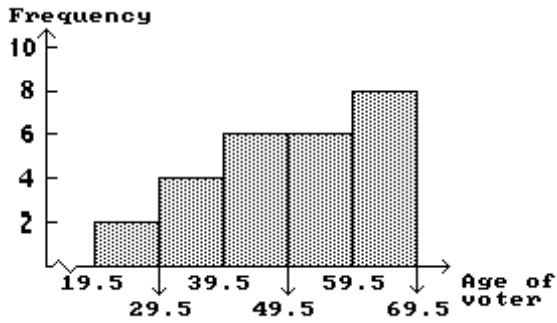
12)

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5 | 9
6 | 3 5 8
7 | 2 4 4 7 9
8 | 3 5 5 8
9 | 1 3 7
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13) C
14) D
15) A
16) D
17) A
18) B
19) Heights: 4.4%
   Weights: 17.5%
   There is substantially more variation in the weights than in the heights of the girls.
20) D
21)

22) Answers will vary.