Indicate the sampling technique used.

1) At a college there are 120 freshmen, 90 sophomores, 110 juniors, and 80 seniors. A school administrator selects a simple random sample of 12 of the freshmen, a simple random sample of 9 of the sophomores, a simple random sample of 11 of the juniors, and a simple random sample of 8 of the seniors. She then interviews all the students selected. Identify the type of sampling used in this example.

A) Stratified sampling
B) Cluster sampling
C) Simple random sampling
D) Systematic random sampling

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

2) A sample of 120 employees of a company is selected, and the average age is found to be 37 years.

A) Statistic
B) Parameter

Identify the number as either continuous or discrete.

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

A) Continuous
B) Discrete

Indicate the sampling technique used.

4) From a group of 496 students, every 49th student starting with the 3rd student is selected. Identify the type of sampling used in this example.

A) Simple random sampling
B) Cluster sampling
C) Systematic random sampling
D) Stratified sampling

Identify the number as either continuous or discrete.

5) The total number of phone calls a sales representative makes in a month is 425.

A) Discrete
B) Continuous

Provide an appropriate response.

6) True or false? In simple random sampling, each possible sample is equally likely to be the one obtained.

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

7) Amount of fat (in grams) in cookies.

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

Classify the study as either descriptive or inferential.

8) A meteorologist constructs a graph showing the total precipitation in Phoenix, Arizona in each of the months of 1998. Does this involve descriptive statistics or inferential statistics?

A) Inferential statistics
B) Descriptive statistics
Determine which of the four levels of measurement (nominal, ordinal, interval, ratio) is most appropriate.

9) Student’s grades, A, B, or C, on a test.
   A) Interval  B) Ordinal  C) Ratio  D) Nominal

Indicate the sampling technique used.

10) An education researcher randomly selects 38 schools from one school district and interviews all the teachers at each of the 38 schools. Identify the type of sampling used in this example.
   A) Simple random sampling  B) Stratified sampling  C) Cluster sampling  D) Systematic random sampling

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

11) The subjects in which college students major.
   A) Ratio  B) Ordinal  C) Nominal  D) Interval

Indicate the sampling technique used.

12) A pollster uses a computer to generate 500 random numbers and then interviews the voters corresponding to those numbers. Identify the type of sampling used in this example.
   A) Simple random sampling  B) Systematic random sampling  C) Stratified sampling  D) Cluster sampling

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

13) Temperatures of the ocean at various depths.
   A) Ordinal  B) Nominal  C) Interval  D) Ratio

Identify the study as an observational study or a designed experiment.

14) A researcher wished to assess the importance of exercise in weight-loss programs. 412 people, all considered to be at least 20 pounds overweight, volunteered to participate in a study. The participants were randomly assigned to one of two groups. Over a two-month period, the first group followed a particular diet but were instructed to perform no exercise other than walking. The second group followed the same diet but also performed aerobic exercise for one hour each day. At the end of the two months, the weight loss of each participant was recorded. The average weight loss was calculated for each group and it was found that the average weight loss for the second group was significantly greater than the average weight loss for the first group.
   A) Designed experiment  B) Observational study

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

15) After inspecting all of 55,000 kg of meat stored at the Wurst Sausage Company, it was found that 45,000 kg of the meat was spoiled.
   A) Statistic  B) Parameter
Identify the study as an observational study or a designed experiment.

16) An educational researcher used school records to determine that, in one school district, 84% of children living in two-parent homes graduated high school while 75% of children living in single-parent homes graduated high school.

A) Observational study  
B) Designed experiment

17) In a clinical trial, 780 participants suffering from high blood pressure were randomly assigned to one of three groups. Over a one-month period, the first group received the experimental drug, the second group received a placebo, and the third group received no treatment. The diastolic blood pressure of each participant was measured at the beginning and at the end of the period and the change in blood pressure was recorded. The average change in blood pressure was calculated for each of the three groups and the three averages were compared.

A) Observational study  
B) Designed experiment

Use the calculator to generate random numbers.

18) A market researcher is conducting a telephone poll. She has a list of 581 registered voters and wishes to interview a random sample of 12 of them. Use your calculator to construct a list of 12 random numbers between 1 and 581 that can be used in obtaining the required simple random sample. Indicate the numbers obtained.

SEE INSTRUCTIONS IN Notes for Chapters 1-3.

Classify the study as either descriptive or inferential.

19) The table below shows the number of homicides in the U.S. in each of the years 1989-1993.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of offenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>21,500</td>
</tr>
<tr>
<td>1990</td>
<td>23,440</td>
</tr>
<tr>
<td>1991</td>
<td>24,700</td>
</tr>
<tr>
<td>1992</td>
<td>23,760</td>
</tr>
<tr>
<td>1993</td>
<td>24,530</td>
</tr>
</tbody>
</table>

A) Descriptive  
B) Inferential

20) Based on a random sample of 1000 people, a researcher obtained the following estimates of the percentage of people lacking health insurance in one U.S. city.

<table>
<thead>
<tr>
<th>Age</th>
<th>Percentage not covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>28.2</td>
</tr>
<tr>
<td>25-39</td>
<td>24.9</td>
</tr>
<tr>
<td>40-54</td>
<td>19.1</td>
</tr>
<tr>
<td>55-65</td>
<td>16.5</td>
</tr>
</tbody>
</table>

A) Inferential  
B) Descriptive
Determine whether the evaluated group is a population or a sample.

21) A researcher examines the records of all the registered voters in one city and finds that 43% are registered Democrats.
   A) Population               B) Sample

22) The average age of 45 employees of a large company is found to be 32 years.
   A) Sample                  B) Population
Answer Key
Testname: CHAP1-REV-F08

1) A
2) A
3) A
4) C
5) A
6) TRUE
7) A
8) B
9) B
10) C
11) C
12) A
13) C
14) A
15) B
16) A
17) B
18) answers vary.
19) A
20) A
21) A
22) A