REVIEW EXERCISES - CHAPTER 1

1. Descriptive statistics describes a set of data. Inferential statistics uses a set of data to make predictions about a population.

2. Probability deals with events that occur by chance. It is used in gambling and insurance.

3. Answers will vary.

4. A population is the totality of all subjects under study. A sample is a subgroup of the population.

5. When the population is large, the researcher saves time and money using samples. Samples are used when the units must be destroyed.

6.
 a. Inferential   e. Inferential
 b. Descriptive   f. Inferential
 c. Descriptive   g. Descriptive
 d. Descriptive   h. Inferential

7.
 a. Ratio   f. Ratio
 b. Ordinal   g. Ordinal
 c. Interval   h. Ratio
 d. Ratio   i. Ratio
 e. Ratio   j. Nominal

8.
 a. Qualitative   e. Quantitative
 b. Quantitative   f. Quantitative
 c. Quantitative   g. Quantitative
 d. Qualitative

9.
 a. Discrete   e. Continuous
 b. Continuous   f. Discrete
 c. Discrete   g. Continuous
 d. Continuous

10.
 a. $35.5 - 36.5$ d. $5.265 - 5.275$
 b. $105.35 - 105.45$ e. $4.5 - 5.5$
 c. $72.55 - 72.65$

11. Random samples are selected by using chance methods or random numbers.

11. continued
Systematic samples are selected by numbering each subject and selecting every kth number. Stratified samples are selected by dividing the population into groups and selecting from each group. Cluster samples are selected by using intact groups called clusters.

12.
 a. Cluster   d. Systematic
 b. Systematic   e. Stratified
 c. Random

13. Answers will vary.

14. Answers will vary.

15. Answers will vary.

16. Answers will vary.

17.
 a. Experimental   c. Observational
 b. Observational   d. Experimental

18.
a. Independent variable - type of pill taken
Dependent variable - number of infections
b. Independent variable - color of car
Dependent variable - running red lights
c. Independent variable - level of hostility
Dependent variable - cholesterol level
d. Independent variable - type of diet
Dependent variable - blood pressure

19. Answers will vary. Possible answers include:
(a) overall health of participants, amount of exposure to infected individuals through the workplace or home
(b) gender and/or age of driver, time of day
(c) diet, general health, heredity factors
(d) amount of exercise, heredity factors

20. Only twenty people were used in the study.

21. Claims can be proven only if the entire population is used.

22. The statement is meaningless since there is no definition of "the road less traveled." Also, there is no way to know that for <u>every</u>

22. continued
100 women, 91 would say that they have taken "the road less traveled."

23. Since the results are not typical, the advertisers selected only a few people for whom the product worked extremely well.

24. There is no mention of how this conclusion was obtained.

25. "74% more calories" than what? No comparison group is stated.

26. Since the word "may" is used, there is no guarantee that the product will help fight cancer.

27. What is meant by "24 hours of acid control"?

28. No. There are many other factors that contribute to criminal behavior.

29. Possible reasons for conflicting results: The amount of caffeine in the coffee or tea or the brewing method.

30. Answers will vary.

31. Answers will vary.

32. Answers will vary.

CHAPTER QUIZ
1. True
2. True
3. True
4. False, it is stratified sampling.
5. True
6. True
7. False, it is 5.5-6.5 inches.
8. c
9. b
10. d
11. a
12. c
13. a
14. Descriptive, inferential
15. Gambling, insurance
16. Population
17. Sample

18.
a. Saves time

18. continued
b. Saves money
c. Use when population is infinite

19.
a. Random   c. Cluster
b. Systematic   d. Stratified

20. Quasi-experimental

21. Random

22.
a. Descriptive   d. Inferential
b. Inferential   e. Inferential
c. Descriptive

23.
a. Nominal   d. Interval
b. Ratio   e. Ratio
c. Ordinal

24.
a. Continuous   d. Continuous
b. Discrete   e. Discrete
c. Continuous

25.
a. $31.5 - 32.5$ minutes   d. $18.5 - 19.5$ pounds
b. $0.475 - 0.485$ millimeter   e. $12.05 - 12.15$ quarts
c. $6.15 - 6.25$ inches