1. Briefly describe the three meanings of the word *statistics*.

2. What is the purpose of statistics?

3. Briefly explain the types of statistics.

4. Which of the following situations most likely involve the use of descriptive statistics, and which involve inductive statistics?
   a) A baseball club statistician wishes to determine the current batting averages of the team members.
   b) An instructor employs different teaching methods with each of his two sections of speech. Then, he compares the final examination scores obtained by the students in these two sections in order to determine which method is more successful.
   c) The doctor studies the relationship between cigarette smoking and heart disease.
   d) The committee on smog prevention studies the effect of decreasing automobile traffic on smog levels.
   e) An economist records population growth within a particular area.

5. In three statistics test, X received scores of 84, 27 and 90, while Y received scores of 65, 67 and 81. Which of the following conclusions involve the use of descriptive statistics, and which involve inductive statistics?
   a) X's score average 67 while Y's score average 71
   b) Y is a better student than X
   c) X was probably ill on the day he took the second test
   d) If the instructor discards each student's lowest score, X's average is higher than that of Y
   e) Y's scores improved from each test to the next
   f) Y studied hard for each successive test
   g) Y's score on the three tests are spread over a narrower interval of values than X's
   h) In the next test, Y will probably do better than X

6. Briefly explain the terms *population* and *sample*.

7. Indicate whether each of the following examples refers to a population or to a sample.
   a) Ages of all members of a family
   b) Number of days missed by all employees of a company during the past month
   c) Marital status of 50 persons selected from a large city
   d) Number of VCRs owned by all families in Kuala Lumpur
   e) Weights of 100 packages
   f) Scores of all students in a statistics class
   g) Yield of potatoes per acre for 10 pieces of land
   h) Weekly salaries of all employees of a company
   i) Cattle owned by 100 farmers in Ipoh
   j) Number of computers sold during the past week at all computer stores in Kajang
   k) A group of 25 patients selected to test a new drug
   l) Total items produced on a machine during one week
   m) Yearly expenditure on clothes for 50 persons
   n) Ages of CEOs of all companies in New York City

8. Explain the meaning of the following terms.

a) Quantitative variable
b) Qualitative variable
c) Discrete variable
d) Continuous variable
e) Quantitative data
f) Qualitative data

9. Indicate which of the following variables are quantitative and which are qualitative. Classify the quantitative variables as discrete or continuous.
   a) Number of persons in a family
   b) Colour of cars
   c) Marital status of people
   d) Length of a frog's jump
   e) Number of students in a class
   f) Number of homes owned
   g) Rent paid by tenants
   h) Types of cars owned by families
   i) Monthly phone bills
   j) Colour of eye
   k) Brand of coffee
   l) Weekly earnings of employees