

Chapter 2 Wrap-Up

EXTRA PRACTICE

1. Antonia has completed her interest inventory and has five thesis questions that she could use for her project.
 - (a) Study the relationship between television viewing and the academic standing of Grade 12 students in Ontario.
 - (b) Study the growth of the use of lotteries by Ontario citizens in the past 10 years.
 - (c) Investigate the relationship between socio-economic status of families and the highest level of education achieved by their children.
 - (d) Study the relationship between the total payroll of a major league hockey team and its success.
 - (e) Investigate the relationship between literacy rates and poverty.

Evaluate one of these questions by identifying the variables and stating whether the data would come from primary or secondary sources. Can the data be easily measured? Identify any difficulties that you might have in gathering the data.
2. You are studying the impact of taxation levels on the smoking habits of teenagers in your community.
 - (a) What is the population?
 - (b) Identify the key variables for the study.
 - (c) State whether each variable is quantitative or qualitative.
 - (d) For the variables that are quantitative, state whether the data will be discrete or continuous.
3. Identify and explain five methods for choosing a sample from a population. For each method, state one advantage and one disadvantage.
4. For each of the following, decide which random sampling method should be used in order for the result to be unbiased.
 - (a) choosing a member of the Olympic team to carry the flag
 - (b) selecting someone from your school for the hockey skills competition
 - (c) selecting a bank teller to take a customer service course
5. Would you use a sample or the entire population to collect data to answer the following questions? Why?
 - (a) Are the apples in your orchard ripe?
 - (b) How many of 800 new TVs are defective?
 - (c) You purchased 2000 cases of grapes to make juice. Are the grapes sweet enough?

6. Lorraine has been asked by a local car dealership to conduct a survey that will find the typical amount of time that a prospective buyer spends purchasing a new vehicle.
 - (a) What is the population for Lorraine's survey?
 - (b) Describe a sampling method that will obtain a representative sample of 200 people.
7. About 3.6% of Canada's population lives in Saskatchewan. Suppose you want to find the popularity of the federal government across Canada.
 - (a) How many people from across the country do you think you should sample? Why?
 - (b) How many people should you select from Saskatchewan?
8. Discuss the possible sources of bias in answers to the following survey questions.
 - (a) What is the value of RRSPs that you own?
 - (b) At the last federal election, which party did you vote for?
9. Write the query for the following Internet search requests.
 - (a) Find information on blue jays, but not about the Toronto Blue Jays.
 - (b) Find more information about music, but not jazz or rock and roll.
-  10. Search the Internet for data from a professional baseball team and import player statistics into Fathom™. Create a case table from the data, and then use a scatter plot to explore the relationship between hits and the number of at-bats. Make sure that you clean up the data where necessary.