

Samples and Surveys

Data about an **entire population** is often collected and analyzed. For example, all of the students in a school may be asked to answer questions about their favorite subjects. It would be possible to ask every student a question.

Sometimes only a part of the population is studied. This is called a **sample**. When it would be too difficult to study every member of the population, a sample is used. For example: Studying whether every single box of cereal in a state has raisins.

In Exercises 1–3, identify the population studied. Then tell whether you think the statistics are drawn from a sample or from the entire population. Explain your thinking.

1. Steve figured out that 34% of the loaves of bread sold in the United States are wheat bread.

2. Ms. Davis calculated that the average age of the students in her class was 8 years, 3 months.

3. The Rocking Horse Company stated that 65% of its employees arrive at work before 8:00 A.M. each morning.

4. Zachary poured 4 oz of cereal mix out of the box. He found that 1 oz was bran cereal. About what percent of the cereal mix in the box is bran cereal?

Samples and Surveys

In Exercises 1 and 2, identify the population studied. Then tell whether you think the statistics are drawn from a sample or from the entire population. Explain your thinking.

1. In a large city in Sweden, 77% of adults had fair hair.

2. Out of all the members of a string quartet, 50% had day jobs.

3. Buster has a collection of 1,400 marbles. Out of 100, 17 of the marbles are clear. About what percent of the 1,400 marbles are clear? _____

4. A juice maker reports that 0.23% of the cartons produced have part of the package torn. How many cartons can the juice maker sell if 240,000 cartons are produced?

Test Prep

5. A survey of 700 retired individuals in a city revealed that 342 had grandchildren. Out of 34,000 retired citizens in the city, how many probably had grandchildren?

- A. 12,452 B. 14,843 C. 16,612 D. 17,212

6. **Writing in Math** Explain how a person taking a survey to find the percent of sports fans who chose baseball as their favorite sport might get a biased sample.
