GUIDED PRACTICE

Vocabulary Apply the vocabulary from this lesson to answer each question.

1. If a particular group in a population is underrepresented in a sample, the sample is _____?_____. (*convenient*; *random*; *biased*)

2. A _____?_____ is a measure of the population that is estimated by a statistic from a sample. (*census*; *parameter*; *survey*)

SEE EXAMPLE 1 **Identify the population and the sample**

3. A quality control inspector needs to estimate the number of defective computers in a group of 250 computers. He tests 25 randomly chosen computers.

4. The manager of the human resources department at a company wants to know if any of the company's 281 employees would take advantage of a reduced membership to a health club. The manager surveys 70 randomly chosen employees.

SEE EXAMPLE 2 **Decide whether the sampling method could result in a biased sample. Explain your reasoning.**

5. A survey of students at a school is taken by asking all the students that are still at the school at 5 PM whether they play sports.

6. A baker wants to know if her customers are satisfied with the selection of baked goods. She asks the first 20 people who make a purchase on a Saturday morning.

SEE EXAMPLE 3 **For Exercises 7-9, determine whether the results of the survey are likely to be representative of the population. Explain.**

The principal of a school wants to know if the students at the school would like to have wider selection of food available in the cafeteria for breakfast.

7. Survey the first 30 students who walk into the school.

8. Survey every 10th student who enters the cafeteria during the lunch period.

9. Survey every student who buys a meal in the cafeteria at least three times a week.

SEE EXAMPLE 4

10. In a survey of 20 sophomores at a high school, 8 students said that they would prefer a class field trip to an amusement park, rather than a museum. The sophomore class has 150 students. Predict the number of sophomores who would prefer a class trip to an amusement park.

11. In a survey of 30 employees at a company, 25 employees said that they were satisfied with their jobs. The company has 210 employees. Predict the number of employees at the company who are satisfied with their jobs.

SEE EXAMPLE 5

12. The manager of a radio station conducts a survey about people's favorite bands. The station plays announcements at regular intervals during the day and night asking listeners to call in and name their favorite band. After one week, the manager notices that 70% of his listeners name the same band as their favorite. The manager arranges for that band to play a concert to be advertised on air beforehand, in order to make a profit for the station from the ticket sales. Did the station manager make a good decision? Why or why not?