13.5 EXERCISES

HOMEWORK

= WORKED-OUT SOLUTIONS on p. WS1 for Exs. 3 and 15

= TAKS PRACTICE AND REASONING Exs. 6, 17, 19, and 20

SKILL PRACTICE

- 1. **VOCABULARY** Copy and complete: In a(n) ? sample, participants are chosen using a rule.
- 2. WRITING *Explain* how a sample is related to a population.

POPULATIONS AND SAMPLES In Exercises 3–5, identify the population and classify the sampling method.

EXAMPLE 1 on p. 871 for Exs. 3-6

- 3. **RESTAURANT SERVICE** A restaurant manager wants to evaluate the restaurant's quality of service. Diners are given mail-in comment cards.
- 4. EXTRACURRICULAR ACTIVITIES Your school wants to know if students are satisfied with the school's extracurricular activities. In each grade, every tenth student on an alphabetized list is surveyed.
- 5. **CUSTOMER SATISFACTION** An airline wants to gather information on passenger satisfaction during a flight. A computer randomly selects 30 passengers to complete a survey.
- 6. TAKS REASONING Scientists wanted to gather information about the birds in a particular region. They chose observation sites and asked bird watchers at those sites to record the number and types of birds they saw in 3 minutes. What population was being studied?
 - (A) Birds
- (B) Sites
- **©** Scientists
- **(D)** Bird watchers

EXAMPLE 2

on p. 872 for Exs. 7-8 BIASED SAMPLES Tell whether the sampling method used is likely to result in a biased sample. Explain.

- 7. **NEIGHBORHOOD WATCH** A family wants to gather information from other residents on their street about forming a neighborhood watch. They survey every third house on both sides of the street.
- 8. NURSE SURVEY The American Nurses Association wanted to gather information about the working environment for nurses in hospitals. A survey for nurses was posted on the association's website.

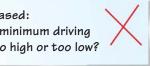
EXAMPLE 3

on p. 872 for Exs. 9-11

BIASED QUESTIONS In Exercises 9 and 10, tell whether the question is potentially biased. Explain your answer.

- 9. Do you support the incumbent's tax plan or the challenger's tax plan?
- 10. Do you prefer the ease of shopping online or the fun of going to a mall?
- 11. **ERROR ANALYSIS** *Describe* and correct the error in revising the survey question "Don't you think the minimum driving age should be lower?" so that it is not biased.

Not biased: Is the minimum driving age too high or too low?



12. CHALLENGE Two toothpaste manufacturers each claim that 4 out of every 5 dentists use their brand exclusively. Both manufacturers can support their claims with survey results. *Explain* how this is possible.