

# 13.5 EXERCISES

## HOMWORK KEY


 = **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.

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                      (C) Scientists                      (D) Bird watchers

**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.

**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.

#### EXAMPLE 1

on p. 871  
for Exs. 3–6

#### EXAMPLE 2

on p. 872  
for Exs. 7–8

#### EXAMPLE 3

on p. 872  
for Exs. 9–11