

# Population and samples

Q: How can you use a sample to gain information about a population?

A: Select a \_\_\_\_\_ that represents the \_\_\_\_\_ and \_\_\_\_\_ the sample using an unbiased question.

## Vocab

1. Population: \_\_\_\_\_

2. Sample: \_\_\_\_\_

3. Random sample: \_\_\_\_\_

4. Biased sample: \_\_\_\_\_

5. Unbiased sample: \_\_\_\_\_

2 types of surveys - 1 \_\_\_\_\_  
2 \_\_\_\_\_

2 different types of samples - 1 \_\_\_\_\_  
2 \_\_\_\_\_

A survey conducted at an ice cream store asked only mothers their favorite ice cream flavor.

A reporter asked every tenth person coming out of a theater how well they liked the movie.

A survey asked only girls to identify their favorite item on the school cafeteria menu.

**LESSON**  
**12-1**

## Populations and Samples

### *Practice and Problem Solving: A/B*

Name the *population* and the *sample* in each exercise. Explain your answer.

1. The number of roadrunners born within a 50-mile radius of Lubbock.
2. The cars traveling at 75 kilometers per hour between Beaumont and Lufkin.

\_\_\_\_\_

\_\_\_\_\_

Name the sampling method that will best represent the whole population in each situation. Explain your answer.

3. Student satisfaction with the middle school cafeteria.  
Method A: Survey 40 students in two seventh-grade math classes. 72 percent are satisfied with the food in the cafeteria.  
Method B: Survey 65 students from a list of all students in the school. 85 percent are satisfied with the food in the cafeteria.

Method \_\_\_\_\_ best represents the whole population of the school.

\_\_\_\_\_

4. Predicted winner in an election for town mayor.  
Method C: Telephone 100 randomly-chosen voters who live in the town. 54 percent plan to vote for the incumbent mayor.  
Method D: Telephone 70 people who have lived in the town for more than 25 years. 45 percent plan to vote for the incumbent mayor.  
Method \_\_\_\_\_ best represents the whole population of the town's voters.

\_\_\_\_\_

Which of these may be biased samples? Explain your answer.

5. A town official surveys 50 people in a library to decide if town residents want the library services and facilities expanded.

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6. A cable television company randomly calls 200 customers and asks them if they are satisfied with their service.

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