

10.3 Practice B

In Exercises 1 and 2, identify the type of sample described.

1. An amphitheater wants to know if Saturday morning concerts would be attended. The amphitheater is divided into 30 different seating areas. It surveys all the members in five randomly selected seating areas.
2. The manager of an orange juice plant wants to test the quality of the plant's new extra-pulp orange juice. She does a taste test of every twentieth container of extra-pulp orange juice.

In Exercises 3 and 4, identify the type of sample and explain why the sample is biased.

3. A town council wants to know whether residents support lower taxes for those who own waterfront property. Thirty-four owners of waterfront property are surveyed.
4. A local radio station is considering switching from country music to classical music. Randomly throughout the day it announces the phone number and website where listeners can go to place their vote for either country music or classical music.

In Exercises 5 and 6, determine whether the sample is biased. Explain your reasoning.

5. A local senator is proposing a bill to lower the limit on the number of lobster that can be caught each day. Participants in a local fishing tournament are asked to complete a survey.
6. A triathlon organizer wants to know if a Saturday morning triathlon is preferred over a Sunday morning triathlon. The organizer randomly surveys five triathletes in one of the age groups.

In Exercises 7 and 8, explain why the survey question may be biased or otherwise introduce bias into the survey. Then describe a way to correct the flaw.

7. "Our plant has not been making a profit. Do you agree that the company should close this plant?"
8. "Do you agree that the mayor is receiving a salary that is far beyond what is reasonable?"