

A survey is to be taken in a city to determine the most popular sport. Would sampling opinions at a baseball game be a good way to collect this data? Explain your answer.

Did you use the calculator on this question?

- Yes No

Scoring Guide

Solution:

No. The opinions would likely be biased in favor of those who like baseball.

NOTE: Answer may or may not have a reason for the bias, but it must, in some way, indicate that a bias could exist.

Score & Description

Correct

Correct response

OR

A "Yes" response, but explanation clearly indicates that bias would exist

Incorrect #2

A "No" response with an incorrect explanation or no explanation

Incorrect #1

A "Yes" response with an incorrect explanation or no explanation

This question required the student to demonstrate an understanding of sampling bias in the design of a survey.

*The use of more than one incorrect category in this question enabled NAEP to gather data on common student errors. Any response that fell into one of the incorrect categories earned no credit.

Correct - Student Response

- 1 A survey is to be taken in a city to determine the most popular sport. Would sampling opinions at a baseball game be a good way to collect this data? Explain your answer.

Answer: Most people at a baseball game would be fans of baseball, and so the survey would likely be inaccurate and skewed towards baseball.

Incorrect #2 - Student Response

- 1 A survey is to be taken in a city to determine the most popular sport. Would sampling opinions at a baseball game be a good way to collect this data? Explain your answer.

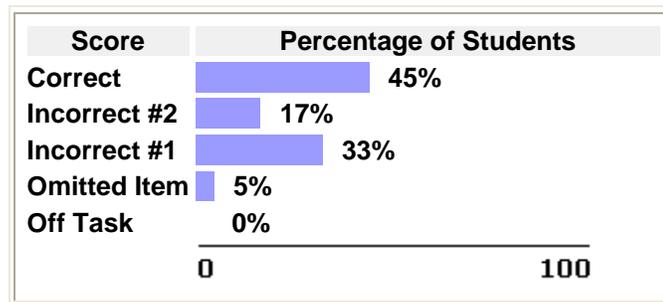
Answer: No, that would only be referring to baseball, and no other information can be collected.

Incorrect #1 - Student Response

- 1 A survey is to be taken in a city to determine the most popular sport. Would sampling opinions at a baseball game be a good way to collect this data? Explain your answer.

Answer: Yes because baseball's a sport and why would there be people at a game if they didn't like sports.

2003 National Performance Results



Note:

- These results are for public and nonpublic school students.
- Percentages may not add to 100 due to rounding.

Mathematical Content Area: *Data analysis, statistics, and probability*

Mathematical Ability: *Conceptual understanding*

Mathematical Content Area

Data analysis, statistics, and probability

This question measures data analysis, statistics, and probability. This content area focuses on the skills of collecting, organizing, reading, representing, and interpreting data. These are assessed in a variety of contexts to reflect the use of these skills in dealing with information. Students are expected to use statistics and statistical concepts to analyze and communicate interpretations of data. Students are also expected to understand the meaning of basic probability concepts and applications of these concepts in problem-solving and decision-making situations.

Mathematical Ability

Conceptual understanding

This question measures students' conceptual understanding. Students demonstrate conceptual understanding in mathematics when they provide evidence that they can recognize, label, and generate examples of concepts; use and interrelate models, diagrams, manipulatives, and varied representations of concepts; identify and apply principles; know and apply facts and definitions; compare, contrast, and integrate related concepts and principles; recognize, interpret, and apply the signs, symbols, and terms used to represent concepts. Conceptual understanding reflects a student's ability to reason in settings involving the careful application of concept definitions, relations, or representations of either.

	Description	Grade	Type	Difficulty
1	Explain sampling bias (calculator available)	8th	Short Constructed Response	Medium