

Bias and Sampling Worksheet

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. A large corporation wants to find out which benefits plan its employees would prefer. Which procedure would be most likely to obtain a statistically unbiased sample?
- survey a random sample of employees from a list of all employees
 - invite all employees to indicate their choices by e-mail
 - place suggestion boxes at random locations in the company's plant and offices
 - assemble a group with one member from each department and record the preferences of these employees
- _____ 2. A university polled 500 of its students, randomly selecting them proportional to the number of students enrolled in each degree program. Classify the sampling method.
- simple random
 - stratified
 - convenience
 - systematic
 - voluntary response
- _____ 3. To do market research, a telemarketing firm randomly selected 1000 names from a store's database and contacted them. Classify the sampling method.
- simple random
 - stratified
 - convenience
 - systematic
 - voluntary response
- _____ 4. To get reactions about a particular new car, readers of a car magazine were asked to mail in their answers to a survey. Classify this sampling method.
- simple random
 - stratified
 - convenience
 - systematic
 - voluntary response
- _____ 5. When a random starting point is chosen, followed by every n th individual, this sampling method is
- simple random sampling
 - cluster random sampling
 - stratified random sampling
 - systematic random sampling
- _____ 6. Systematic random sampling is used to interview residents in 25% of 80 apartments in a building. The sampling interval would be
- 4
 - 20
 - 5
 - 16
- _____ 7. A simple random sample of 200 people is selected from the 1230 male students in a university psychology course to take part in a psychological test. The population being considered is
- 200
 - 1230
 - people taking part in the test
 - male students enrolled in a university psychology course

- _____ 8. Which question is unbiased?
- Does the school board have the right to enforce a dress code?
 - Do you think the mayor is doing a good job in spite of his questionable character?
 - Do you prefer daytime or evening television programming?
 - Do you think the government should be allowed to cut down trees willy-nilly to build a new highway?
- _____ 9. Which question is biased?
- Do you prefer daytime or evening television programming?
 - Should there be a school dress code?
 - Do you prefer news or mindless sitcoms?
 - Do you think a new highway should be built?
- _____ 10. When a research company polls residents about their voting intentions, new Canadians are under-represented. This is an example of
- sampling bias
 - response bias
 - non-response bias
 - measurement bias
- _____ 11. A radio station asks its listeners to call in to answer a survey question on spending by politicians. This is an example of
- sampling bias
 - response bias
 - non-response bias
 - measurement bias
- _____ 12. In an experiment, the heights of participants was measured by two different laboratory assistants. This may lead to
- sampling bias
 - response bias
 - non-response bias
 - measurement bias

Matching

Match these terms with the descriptions below.

- | | |
|-----------------------|------------------------------|
| a. cluster sample | c. voluntary-response sample |
| b. multi-stage sample | d. convenience sample |
- _____ 13. An easily accessible sample is chosen.
- _____ 14. Two or more levels of random sampling are used.
- _____ 15. The population is invited to respond.
- _____ 16. Samples are randomly selected from representative groups.

Bias and Sampling Worksheet

Answer Section

MULTIPLE CHOICE

1. ANS: A PTS: 1 DIF: 1
REF: Knowledge & Understanding OBJ: Section 2.3 LOC: C2.1
TOP: Organization of Data for Analysis KEY: sampling
2. ANS: B PTS: 1 DIF: 1 REF: Application
OBJ: Section 2.3 LOC: C2.2 TOP: Organization of Data for Analysis
KEY: sampling
3. ANS: A PTS: 1 DIF: 1 REF: Application
OBJ: Section 2.3 LOC: C2.2 TOP: Organization of Data for Analysis
KEY: sampling
4. ANS: E PTS: 1 DIF: 1 REF: Application
OBJ: Section 2.3 LOC: C2.2 TOP: Organization of Data for Analysis
KEY: sampling
5. ANS: D PTS: 1 DIF: 1 REF: Application
REF: Knowledge & Understanding OBJ: Section 2.3 LOC: C2.2
TOP: Organization of Data for Analysis KEY: sampling
6. ANS: A PTS: 1 DIF: 2 REF: Application
OBJ: Section 2.3 LOC: C2.2 TOP: Organization of Data for Analysis
KEY: sampling
7. ANS: D PTS: 1 DIF: 1 REF: Application
OBJ: Section 2.3 LOC: C2.2 TOP: Organization of Data for Analysis
KEY: population
8. ANS: C PTS: 1 DIF: 1 REF: Application
REF: Knowledge & Understanding OBJ: Section 2.4 LOC: C2.3
TOP: Organization of Data for Analysis KEY: bias
9. ANS: C PTS: 1 DIF: 1 REF: Application
REF: Knowledge & Understanding OBJ: Section 2.4 LOC: C2.3
TOP: Organization of Data for Analysis KEY: bias
10. ANS: C PTS: 1 DIF: 1 REF: Application
OBJ: Section 2.4 LOC: C2.3 TOP: Organization of Data for Analysis
KEY: bias
11. ANS: A PTS: 1 DIF: 1 REF: Application
OBJ: Section 2.4 LOC: C2.3 TOP: Organization of Data for Analysis
KEY: bias
12. ANS: D PTS: 1 DIF: 1 REF: Application
OBJ: Section 2.4 LOC: C2.3 TOP: Organization of Data for Analysis
KEY: bias

MATCHING

13. ANS: D PTS: 1 DIF: 2
REF: Knowledge & Understanding OBJ: Section 2.3 LOC: C2.2
TOP: Organization of Data for Analysis KEY: sampling
14. ANS: B PTS: 1 DIF: 2
REF: Knowledge & Understanding OBJ: Section 2.3 LOC: C2.2
TOP: Organization of Data for Analysis KEY: sampling
15. ANS: C PTS: 1 DIF: 2
REF: Knowledge & Understanding OBJ: Section 2.3 LOC: C2.2
TOP: Organization of Data for Analysis KEY: sampling
16. ANS: A PTS: 1 DIF: 2
REF: Knowledge & Understanding OBJ: Section 2.3 LOC: C2.2
TOP: Organization of Data for Analysis KEY: sampling