

Name: _____ Date: _____

1. A health club is interested in finding out which of two brands of aerobic exercise equipment provides a more vigorous workout. They purchase 10 machines of each type and for five days between 9 and 12 AM they measure the average pulse rate of each person who is working out on one of these 20 machines. This is an example of
 - A) an experiment.
 - B) an observational study, not an experiment.
 - C) a paired data experiment.
 - D) a stratified experiment.

Use the following to answer question 2:

The city council of a suburb of Columbus is interested in the level of public support for a new recreation center. A marketing research firm is selected which then selects a simple random sample of 50 adult residents and contacts each to determine whether the resident would be interested in joining this recreation center if it were built. Of these, 35 indicated they would be interested in joining the recreation center.

2. The population of interest is
 - A) the residents in the suburb that support the new recreation center.
 - B) the 50 residents contacted.
 - C) all adult residents in the suburb.
 - D) all household in the suburb.
3. At a large University a simple random sample of 5 female professors is selected and a simple random sample of 10 male professors is selected. The two samples are combined to give an overall sample of 15 professors. The overall sample is
 - A) a simple random sample.
 - B) biased due to imbalance.
 - C) a stratified sample.
 - D) all of the above.

4. To select a sample of undergraduate students in the United States, I select a simple random sample of four states. From each of these states, I select a simple random sample of two colleges or universities. Finally, from each of these eight colleges or universities, I select a simple random sample of 20 undergraduates. My final sample consists of 160 undergraduates. This is an example of
- A) simple random sampling.
 - B) stratified random sampling.
 - C) multistage sampling.
 - D) convenience sampling.
5. To investigate whether women are more likely than men to prefer Democratic candidates, a political scientist selects a large sample of registered voters, both men and women. She asks every voter whether they voted for the Republican or the Democratic candidate in the last election. This is
- A) an observational study.
 - B) a multistage sample.
 - C) a double blind experiment.
 - D) a block design.

6. A 1992 Roper poll found that 22% of Americans say that the Holocaust may not have happened. The actual question asked in the poll was

"Does it seem possible or impossible to you that the Nazi extermination of the Jews never happened?"

- and 22% responded possible. The results of this poll cannot be trusted because
- A) undercoverage is present. Obviously, those people who did not survive the Holocaust could not be in the poll.
 - B) the question is worded in a confusing manner.
 - C) we do not know who conducted the poll or who paid for the results.
 - D) nonresponse is present. Many people will refuse to participate, and those that do will be biased in their opinions.

Use the following to answer question 7:

To assess the opinion of students at the Ohio State University about campus safety, a reporter for the student newspaper interviews 15 students she meets walking on the campus late at night who are willing to give their opinion.

7. The method of sampling used is
- A) simple random sampling.
 - B) the Gallup Poll.
 - C) voluntary response.
 - D) a census.

Use the following to answer question 8:

The city council of a suburb of Columbus is interested in the level of public support for a new recreation center. A marketing research firm is selected which then selects a simple random sample of 50 adult residents and contacts each to determine whether the resident would be interested in joining this recreation center if it were built. Of these, 35 indicated they would be interested in joining the recreation center.

8. The chance that all 50 residents in a neighborhood end up being the sample of residents selected is
- A) the population of the suburb divided by 50.
 - B) the same as for any other set of 50 residents.
 - C) smaller than average due to the “cluster” effect.
 - D) smaller than average due to stratification.
9. A public opinion poll in Ohio wants to determine whether registered voters in the state approve of a measure to ban smoking in all public areas. The researchers select a simple random sample of 50 registered voters from each county in the state and ask whether they approve or disapprove of the measure. This is an example of
- A) a systematic county sample.
 - B) a stratified sample.
 - C) a multistage sample.
 - D) a simple random sample.

Use the following to answer question 10:

A state official wants to know which party the voters in his state feel is best qualified to lead the country over the next 10 years. He mails a questionnaire on this subject to a SRS of 1600 voters in his state. His staff reports that 325 questionnaires have been returned, of these 241 respondents feel the Democratic Party is best qualified to lead the country over the next 10 years.

10. The population is
- A) the 1600 voters receiving the questionnaire.
 - B) the 325 questionnaires returned.
 - C) the 241 voters who feel the Democratic party is best qualified.
 - D) the voters in his state.

Answer Key

1. B
2. C
3. C
4. C
5. A
6. B
7. C
8. B
9. B
10. D