

Name: _____

Quest Review

Decide which method of data collection you would use to collect data for the study (observational study or experiment).

1. A study to determine if women who work have a higher rate of developing cancer
observational study
2. A study to determine if eating chocolate helps students perform better on a test
experiment
3. A study to determine the effects of a fertilizer on a soybean crop
experiment
4. A study to determine the effect of koalas on Florida ecosystem
observational study

A statistics teacher wants to know how her students feel about an introductory statistics course. She decides to administer a survey to a random sample of students taking the course. She has several sampling plans to choose from. Name the sampling strategy in each (simple random, systematic, stratified, cluster, convenience, voluntary response).

5. There are four ranks of students taking the class: freshmen, sophomores, juniors, and seniors. Randomly select 15 students from each class rank.
stratified
6. Randomly select a class rank (freshmen, sophomores, juniors, and seniors) and survey every student in that class.
cluster
7. Each student has a nine-digit student number. Randomly choose 60 numbers.
simple random
8. Using the class roster, select every fifth student from the list.
systematic

State whether or not the samples below are biased or unbiased. If it is biased, state the kind of bias (question wording, undercoverage, response, nonresponse, voluntary response).

9. The student body wants to survey the freshman class to choose a theme for the winter dance. They surveyed Mr. Walker's 3rd period art class.
undercoverage
10. Students are asked by their principal if they use drugs or alcohol.
response
11. The patrons of a pet store were asked what their favorite type of pet is.
not biased
12. Students are asked, "Are you willing to waste weekend time volunteering at an animal shelter?"
question wording

For each scenario below, determine the sample, population, statistic, and parameter.

13. In a survey of 4253 high school students, it was found that 14% of them feel they are not being assigned enough homework.

14. The average time spent nightly watching Netflix for 750 viewers was found to be 2.6 hours.

15. As the sample size increases, the margin of error decreases.

sample: 4253 high school students surveyed
population: all high school students

Statistic: 14% of 4253 high school students who feel they don't get enough homework

parameter: percentage of all high school students who feel they don't get enough homework

14. sample: 750 Netflix viewers surveyed

population: all Netflix viewers

Statistic: 2.6 hours the 750 Netflix viewers surveyed spend watching on average

parameter: the average time all Netflix viewers spend watching