
Elementary Statistics – Practice Test – Chapter 1

On the matching problems below, assume that an answer may be used more than once, and that the answers are independent from one another.

For problems #1 and #2, pick one of the choices below.

a. Population; b. Sample

1. The ages of all Mt. SAC students are collected.
2. One hundred statistics students are gathered to measure I.Q. levels.

For problems #3 and #4, pick one of the choices below.

a. Statistic; b. Parameter

3. The average I.Q. of one hundred statistics students is computed.
4. The average age of all Mt. SAC students is computed.

For problems #5 and #6, pick one of the choices below.

a. Quantitative; b. Qualitative

5. Phone numbers are gathered from all Mt. SAC students.
6. High temperatures in Celsius are recorded daily at the local weather station.

For problems #7 and #8, pick one of the choices below.

a. Discrete; b. Continuous

7. The heights of randomly selected trees are measured by the forestry service.
8. The number of trees in each acre of forest is monitored by the forestry service.

For problems #9 through #12, pick one of the choices below.

a. Nominal; b. Ordinal; c. Interval; d. Ratio

9. High temperatures in Celsius are recorded daily at the local weather station.
10. The names of various tree species are gathered and recorded.
11. The number of trees in each acre of forest is monitored by the forestry service.
12. The states of health for randomly selected tree trees are classified as “poor”, “good”, or “very good”.

For problems #13 and #14, pick one of the choices below.

a. Observational Study; b. Experimental Study

13. The health states of trees in drought states are monitored carefully.
14. A forest is thinned as a test to determine if trees are able to improve in health when fewer trees compete for sunlight and water.
15. Give as many problems as you can think of in the following study.
A statistics student wishes to gather information from fellow students about opinions with regard to their college. She sends out letters to all of her friends who attend college with her, asking them to fill out a survey. Of 150 letters that are sent, 55 are returned with surveys completed.
16. It has been shown that there is a strong correlation between a child’s fastest running speed and that child’s I.Q. level. This is not refutable. What can be said concluding that being able to run faster causes a student’s I.Q. level to increase? Can you offer a better explanation?
17. For experiments, how do we control the effect of the confounding variable known as the *placebo effect*?
18. Can a stratified sample be a simple random sample? Please explain.

For problems #19 and #20, pick one of the choices below.

a. Sampling Error; b. Non-sampling error

- 19. This type of error is due to failings by humans or the equipment they use.
- 20. Population data can vary widely – this type of error is due to the fact that we are taking relatively small samples from diverse populations.

For problems #21 through #24, pick one of the choices:

a. Systematic; b. Convenience; c. Stratified; d. Cluster

- 21. At Mt. SAC, all students from 10 randomly selected classes are questioned to measure the college's effectiveness in achieving student learning outcomes.
 - 22. At Mt. SAC, students entering the student center are questioned to measure the college's effectiveness in achieving student learning outcomes.
 - 23. Students are selected by selecting names corresponding to every 50th student ID.
 - 24. At Mt. SAC, ten students from every class on campus are questioned to measure the college's effectiveness in achieving student learning outcomes.
25. Is it humanly possible to gather a random sample of 1000 people who live on this planet? Why?