

- 1) Statistics is the science of conducting studies to _____. 1) A
A) collect, organize, summarize, analyze, and draw conclusions from data
B) hypothesize, experiment, and form conclusions

Statistics is the science of collecting, analyzing, presenting, and interpreting data.

- 2) A _____ consists of all subjects that are being studied. 2) B
A) variable B) population C) group D) sample

In statistics, a population is the entire group of people or things that a researcher wants to draw conclusions about, while a sample is a subset of the population that the researcher will collect data from. The sample is carefully selected to represent the characteristics of the population, and the researcher studies the sample to make generalizations about the population.

- 3) Which of the following correctly describes the relationship between a sample and a population? 3) C
A) A sample is a group of populations that are subject to observation.
B) A population is a group of samples that may or may not be included in a study.
C) A sample is a group of subjects selected from a population to be studied.

- 4) Determine which branch of statistics was used to make the following statement. In 2025, 4) A
the world population is predicted to be 8 billion people.
A) inferential statistics B) descriptive statistics

Descriptive statistics summarize a sample of data, while inferential statistics use data to learn about the population that the sample represents. Descriptive statistics are used to organize, analyze, and present data in a meaningful way. Inferential statistics are used to compare data, make predictions, and test hypotheses.

In summary, descriptive statistics state facts and proven outcomes from a population, whereas inferential statistics analyze samplings to make predictions about larger populations.

- 5) Determine which branch of statistics was used to make the following statement. In an online survey of 500 Virginia Tech students between spring 2010 and spring 2011, 31% said that they had missed class because of alcohol consumption. 5) B
A) inferential statistics B) descriptive statistics

- 6) A(n) _____ variable assumes values that can be counted. 6) B
A) quantitative B) discrete C) continuous D) enumerable

Discrete data is a numerical type of data that includes whole, concrete numbers with specific and fixed data values determined by counting. Continuous data includes complex numbers and varying data values measured over a particular time interval.

- 7) The amount of time needed to run the Boston marathon is an example of which type of variable? 7) A
A) continuous B) temporal C) qualitative D) discrete

Time is a continuous variable because accurate instruments will enable it to be measured to any subdivision of a unit.

- 8) Determine which of the following describes quantitative data. 8) A
i). the name of a chemical sample
ii). the mass of a chemical sample
iii). the color of a chemical sample
A) ii only B) i, ii, and iii C) i and ii only D) i only

Quantitative data is anything that can be counted or measured; it refers to numerical data. Qualitative data is descriptive, referring to things that can be observed but not measured—such as colors or names.

- 9) Which one of the following data are continuous? 9) B
A) the number of times the file has been downloaded
B) the time remaining for an MP3 music download
C) the number of musicians performing in the MP3 file
D) all of these represent continuous data

Number of es a key phrase for discrete data; since "number of ..." is always countable quantity; while time itself is continuous.