Elementary Statistics   Chapter 1 Test – Form A

Name:_____ Course Number: _____ Section Number: _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.
1) Define the terms population, sample, parameter and statistic. How does a census compare to a sample?

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Identify the number as either continuous or discrete.
2) The total number of phone calls a sales representative makes in a month is 425.

   A) Continuous   B) Discrete

3) The number of limbs on a 2–year–old oak tree is 21.

   A) Continuous   B) Discrete

Determine which of the four levels of measurement (nominal, ordinal, interval, ratio) is most appropriate.
4) The subjects in which college students major.

   A) Ratio   B) Ordinal   C) Nominal   D) Interval

5) Amount of fat (in grams) in cookies.

   A) Nominal   B) Interval   C) Ordinal   D) Ratio

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Identify the sample and population. Also, determine whether the sample is likely to be representative of the population.
6) In a poll of 50,000 randomly selected college students, 74% answered "yes" when asked "Do you have a television in your dorm room?".

Use critical thinking to develop an alternative conclusion.
7) A study shows that adults who work at their desk all day weigh more than those who do not. Conclusion: Desk jobs cause people to gain weight.

Use critical thinking to address the key issue.
8) A questionnaire is sent to 10,000 persons. 5,000 responded to the questionnaire. 3,000 of the respondents say that they "love chocolate ice cream". We conclude that 60% of people love chocolate ice cream. What is wrong with this survey?

9) A researcher wished to gauge public opinion on gun control. He randomly selected 1000 people from among registered voters and asked them the following question: "Do you believe that gun control laws which restrict the ability of Americans to protect their families should be eliminated?". Identify the abuse of statistics and suggest a way the researcher's methods could be improved.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Perform the requested conversions. Round decimals to the nearest thousandth and percents to the nearest tenth of a percent, if necessary.

10) Convert 0.34 to an equivalent fraction and percent.

A) $\frac{8}{25}$, 34%   B) $\frac{8}{25}$, 3.4%   C) $\frac{17}{50}$, 3.4%   D) $\frac{17}{50}$, 34%

Solve the problem.

11) A gardener has 28 clients, 25% of whom are businesses. Find the number of business clients.

A) 7000 clients   B) 700 clients   C) 7 clients   D) 70 clients

Is the study experimental or observational?

12) A marketing firm does a survey to find out how many people use a product. Of the one hundred people contacted, fifteen said they use the product.

A) Experimental   B) Observational

13) A clinic gives a drug to a group of ten patients and a placebo to another group of ten patients to find out if the drug has an effect on the patients' illness.

A) Observational   B) Experimental

Identify the type of observational study.

14) A statistical analyst obtains data about ankle injuries by examining a hospital's records from the past 3 years.

A) Retrospective   B) Cross–sectional   C) Prospective   D) None of these

Identify which of these types of sampling is used: random, stratified, systematic, cluster, convenience.

15) A tax auditor selects every 1000th income tax return that is received.

A) Random

B) Systematic

C) Convenience

D) Cluster

E) Stratified

16) A pollster uses a computer to generate 500 random numbers, then interviews the voters corresponding to those numbers.

A) Stratified

B) Cluster

C) Convenience

D) Systematic

E) Random

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

17) Define random sample. Explain why this is important in design of experiments.