

Name: _____

Conditional Probability and Tables:

Please answer the following questions. Write the answers in a Word document and send to me via email. Questions involving multiple answers can be listed separated by a comma. Multiple choice answers, you may write the answer choices as A, B, C, and D. First answer choice is A, second is B, and so on...

Question 1

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

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

- ☒ Random
- ☐ Cluster
- ☐ Convenience
- ☐ Stratified
- ☐ Systematic

Question 2

Solve the problem.

A postal worker counts the number of complaint letters received by the United States Postal Service in a given day. Identify the type of data collected.

- ☐ quantitative
- ☐ qualitative

Question 3

If it is being used to make inferences about a population, a good statistic (or estimator) should

- ☐ Be accurate and precise.
- ☐ Show correlation.
- ☐ Be derived from population data.
- ☐ None of these.

Question 4

Placebos are a tool for

- ☐ blocking
- ☐ sampling
- ☐ control
- ☐ blinding
- ☐ randomization

Question 5

Is the study experimental or observational?

A sample of fish is taken from a lake to measure the effect of pollution from a nearby factory on the fish.

- ☐ Experimental
- ☐ Observational

Question 6

Solve the problem.

A personnel director studied the eating habits of a company's employees. The director noted whether employees brought their own lunch to work, ate at the company cafeteria, or went out to eat lunch. This type of data collection would best be considered as a(n) _____.

- ☐ designed experiment
- ☐ observational study

Question 7

Solve the problem.

The amount of television viewed by today's youth is of primary concern to Parents Against Watching Television (PAWT). 250 parents of elementary school-aged children were asked to estimate the number of hours per week that their child watches television. Identify the type of data collected by PAWT.

- ☐ qualitative
- ☐ quantitative

Question 8

Identify the data set's level of measurement.

the years the summer Olympics were held in the United States

- ☐ nominal
- ☐ interval
- ☐ ordinal
- ☐ ratio

Question 9

Determine whether the statement is based on census data or sample data.

After inspecting all of 55,000 kg of meat stored at the Wurst Sausage Company, it was found that 45,000 kg of the meat was spoiled.

- ☐ Census data
- ☐ Sample data

Question 10

Solve the problem.

A watchdog group is investigating how people are treated during the foreclosure process. Surveys were mailed to a random sample of 300 people who had recently been threatened with foreclosure. 75 of the surveys were returned by the postal service because the intended recipients had moved and left no forwarding address. What type of problem has occurred?

- ☐ selection bias
- ☐ nonresponse bias
- ☐ measurement error

Question 11

Choose the best wording for the question in the study.

In a survey to assess attitudes toward genetically modified foods, which of the following survey questions will give the most accurate results?

- ☐ How do you feel about allowing untested genetically modified foods to be sold in stores?
- ☐ Do you agree with increasing the production of genetically modified foods which could be harmful to the environment?
- ☐ Do you agree with increasing the production of genetically modified foods to increase the world food supply?
- ☐ How do you feel about genetically modified foods?

Question 12

Fill in the blank to complete the statement.

Researchers are interested in learning more about the age of women when they marry for the first time so they survey 500 married or divorced women and ask them how old they were when they first married. The collection of the ages of the 500 women when they first married is a _____.

- ☐ Parameter
- ☐ Sample
- ☐ Statistic
- ☐ Population

Question 13

Solve the problem.

Parking at a large university has become a very big problem. University administrators are interested in determining the average parking time (e.g. the time it takes a student to find a parking spot) of its students. An administrator inconspicuously followed 250 students and carefully recorded their parking times. What type of variable is the administration interested in collecting?

- ☐ quantitative data
- ☐ qualitative data

Question 14

Which of the following statements is **not** true about a sampling distribution?

- ☐ It tells us how often we can expect to see particular values of our estimator.
- ☐ It is the probability distribution of a statistic.
- ☐ It is used for making inferences about a population.
- ☐ All these statements are true.

Question 15

Is the study experimental or observational?

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.

- ☐ Observational
- ☐ Experimental