Introduction to Statistics (GRADED) Homework Assignment

Directions: Be sure to show all work, communicate your thought process, and justify your reasoning. Remember to check that your answers are complete, correct, and reasonable.

Tic-Tac-Toe, Show Off What You Know

Choose any row, column, or diagonal to complete. The only requirement for your choice is that you MUST use the center box. Then find the activity that corresponds to each box of your choice, and complete it on a separate sheet of paper. Be sure to label your work appropriately, according to the name of the activity. Of course, you may use your notes from class. ☺

CREATE: Create a situation for each requirement.	TRUE OR FALSE: Determine if four statements are true or false. Correct the underlined portion of those that are false.	COMPLETE THE BLANKS: Appropriately complete five sentences / analogies.
COMPLETE THE BLANKS: Appropriately complete five sentences / analogies.	IDENTIFY: Identify each requested part of a given situation.	MULTIPLE CHOICE: Answer five multiple choice questions.
TRUE OR FALSE: Determine if four statements are true or false. Correct the underlined portion of those that are false.	CREATE: Create a situation for each requirement.	MULTIPLE CHOICE: Answer five multiple choice questions.

★ IDENTIFY: A special math test was administered to all high school students. 78% of these students had an A-, an A, or an A+ in their math class at the time of administration. The average score on the mathematics test for the entire school was 73%, while the average score of the 78% of students who had A-'s, A's, or A+'s in their math classes was 91%. Identify each of the following:

– The Population   – The Sample   – The Parameter   – The Statistic

★ COMPLETE THE BLANKS: (You do not need to rewrite the sentences; just record your answers).

1. Samples are to populations as natural numbers are to _____ numbers.

2. _____ is the science of collecting, organizing, and interpreting _____ to make decisions & inferences.

3. A _____ is a numerical value used to describe a sample of data.

4. Although both are numerical, a collection of zip codes would be considered _____ data, and a collection of average amounts spent at a gas station would be considered _____ data.

5. 328 people in a town are surveyed regarding how many times they visit the local farmer's market per month. The average is recorded. To find the _____, one would have to survey *everyone* in the town regarding how many times they visit the local farmer's market per month.

★ CREATE:

    1. Create any situation that represents qualitative data.

    2. Create any situation that represents quantitative data.

    3. Create any situation that represents a sample.

    4. Create any situation that represents a parameter.

★ MULTIPLE CHOICE:

1. Which of the following are qualitative data? Write the corresponding letter of ALL that apply.

    a. The number of dogs in each New Jersey household

    b. The average number of hours of sleep of all high school students

    c. The amount of weight each Soccer player on a team can bench press

    d. The average amount of time all girls on the track time run a mile

    e. The license plate number of each car that is awarded a speeding ticket

    f. A group of 100 people's favorite times to work out

2. Which of the following are quantitative data? Write the corresponding letter of ALL that apply.

       a. The lowest temperatures for each of the past five days

       b. The IP address of every computer in a school

       c. The cholesterol levels of 38 patients at a hospital

       d. The average amount of time all football players spend running on the treadmill

       e. Social security numbers of all workers at a car dealership

       f. Average weekly sales of all salespeople at a car dealership

3. The blood pressure of 50 patients in a hospital with 180 patients is recorded. What is this data set considered?

a. a Parameter   b. a Statistic   c. a Population   d. a Sample

4. In a survey of all students at a high school, 93% of the students claimed that they do not text and drive. This is an example of which?

a. a Parameter   b. a Statistic   d. numerical data   d. a Sample

5. Which statement is correct?

       a. Data and statistics are the same.

       b. Data is collected through the science of statistics.

       c. Statistics are collected through data.

       d. Data sets have no relation to statistics.

★ TRUE OR FALSE:

1. Statistics are numerical values used to describe populations.

2. The average amount of millimeters the shred on a given shoe decreases with use is an example of quantitative data.

3. A majority of the websites employees at a certain company visit on a daily basis are related to news as opposed to sports & entertainment. This data is qualitative.

4. A police officer records the speed of every fourth car that passes. This data set is a population.