Functions & Trig. Name _____
2nd Semester: Statistics 2019
Homework

1.) Which survey is ***least*** likely to contain bias?

(A) surveying a sample of people leaving a movie theater to determine which flavor of ice cream is the most popular

(B) surveying the members of a football team to determine the most watched TV sport

(C) surveying a sample of people leaving a library to determine the average number of books a person reads in a year

(D) surveying a sample of people leaving a gym to determine the average number of hours a person exercises per week

2.) A market research firm needs to collect data on viewer preferences for local news programming in Buffalo. Which method of data collection is most appropriate?

(A) census (B) survey (C) observation (D) controlled experiment

3.) In a certain high school, a survey revealed the mean amount of bottled water consumed by all the students each day was 153 bottles with a standard deviation of 22 bottles. Assuming the survey represented a normal distribution, what percentage of all the students at this high school drink between 131 and 197 bottles of water each day? [**Round to the nearest percent**]

4.) The lengths of 100 pipes have a normal distribution with a mean of 102.4 inches and a standard deviation of 0.2 inch. If one of the pipes measures exactly 102.1 inches, its length lies

(A) below the 16^{th} percentile
(B) between the 16^{th} and 50^{th} percentiles
(C) between the 50^{th} and 84^{th} percentiles
(D) above the 84^{th} percentile

5.) The statistics for the math portion of the SAT has a mean score of 500 and a standard deviation of 20. Assume the scores are normally distributed.

Tim scored between the interval 480 – 535 on the math portion of the SAT. What is the probability, to ***the nearest ten-thousandth***, that a test paper selected at random, scored in the same interval?

6.) Describe how a controlled experiment can be created to examine the effect of Nutrient A on the growth of a fish.

7.) Janis averaged 75 on the first four tests of the semester in her mathematics class. If she scores 85 on each of the remaining tests, her average will be 83.

Which equation could be used to determine how many tests, *T*, are left in the semester?

(A) $\frac{300+85T}{4T}=83$ (B) $\frac{75+85T}{T}=83$

(C) $\frac{300+85T}{T+4}=83$ (D) $\frac{75+85T}{T+4}=83$

8.) The scores of a recent test taken by 1200 students had an approximately normal distribution with a mean of 225 and a standard deviation of 18. Determine the number of students who scored between 200 and 245.