First and last name .....

Question 1/25

. When the correlation coefficient, r, is close to one:

A. there is no relationship between the two variables
B. it is impossible to tell if there is a relationship between the two variables
C. there is a strong linear relationship between the two variables
D. the slope of the regression line will be close to one

Question 2/25

Which of the following is an assumption underlying the use of the t-distributions?

A. All Above
B. The variance of the population is known
C. s (sample standard deviation) is an unbiased estimate of the population variance.
D. The samples are drawn from a normally distributed population

Question 3/25

The following are percentages of fat found in 5 samples of each of two brands of baby food:
A: 5.7, 4.5, 6.2, 6.3, 7.3
B: 6.3, 5.7, 5.9, 6.4, 5.1
Which of the following procedures is appropriate to test the hypothesis of equal average fat content in the two types of ice cream?

A. Paired t-test with 5 d.f
B. Paired t-test with 4 d.f
C. Two samples t-test with 9 d.f
D. Two samples t-test with 8 d.f

Question 4/25

Which of the following is not true about z score?

A. Data points should be independent from each other. In other words, one data point isn't related or doesn't affect another data point.
B. Your data should be normally distributed. However, for large sample sizes (over 30) this doesn't always matter.
C. Your data should be randomly selected from a population, where each item has an equal chance of being selected.
D. Your sample size is smaller than 30. Otherwise, use a t test.

Question 5/25

What is the relationship between sample size and the standard error of the mean?

A. The standard error increases as the sample size increases.
B. The standard error decreases as the sample size decreases.
C. The standard error is unaffected by the sample size.
D. The standard error decreases as the sample size increases.

Question 6/25

What does scipy.stats.norm.sf(abs(z_scores)) represent?

A. two-sided cdf
B. one-sided cdf
C. area under curve
D. one-sided pdf

Question 7/25

Which of the following is a true statement, for comparing the t distributions with standard normal,

A. The proportion of area beyond a specific value of "t" is less than the proportion of normal curve
B. None of the Above
C. The Normal Curve is symmetrical whereas the t-distributions are slightly skewed
D. Greater the degree of freedom, the more the t-distribution resembles the standard normal distribution

Question 8/25

Which of the following statements sounds like a null hypothesis?

A. The defendant is guilty
B. There is a correlation in the population
C. There is no difference between male and female incomes in the population
D. The coin is not fair

Question 9/25

. Given IQ scores are approximately normally distributed with a mean of 100 and standard deviation of 15, the proportion of people with IQs above 130 is:

A. 5%
B. 95%
C. 2.5%
D. 68%

Question 10/25

In a small data sample (N = 20), what can we say about a z-score of 2.37?

A. It is significant at $p < .01$
B. It is significant at $p < .05$
C. It is significant at $p < .001$
D. It is non-significant

Question 11/25

. A Type I error is also known as a _____.

A. False negative
B. Double negative
C. Positive negative
D. False positive

Question 12/25

The critical value of a test statistic is determined from

A. Calculations based on many actual repetitions of the same experiment
B. The sampling distribution of the statistic assuming Alternative Hypothesis
C. The sampling distribution of the statistics assuming Null Hypothesis
D. Calculations from the data

Question 13/25

Of what is p the probability if the null hypothesis were true?

A. p is the probability that the results would be replicated if the experiment was conducted a second time.
B. p is the probability that the results are not due to chance, the probability that the null hypothesis (H0) is false.
C. p is the probability of observing a test statistic at least as big as the one we have if there were no effect in the population (i.e., the null hypothesis were true).
D. p is the probability that the results are due to chance, the probability that the null hypothesis (H0) is true.

Question 14/25

If you drew all possible samples from some population, calculated the mean for each of the samples, and constructed a line graph (showing the shape of the distribution) based on all of those means, what would you have?

A. A population distribution
B. parameter distribution
C. A sampling distribution
D. normal distribution

Question 15/25

For t distribution, increasing the sample size, the effect will be on

A. The t-ratio
B. Standard Error of the Means
C. All of the Above
D. Degrees of Freedom

Question 16/25

The use of the laws of probability to make inferences and draw statistical conclusions about populations based on sample data is referred to as _____.

A. Sample statistics
B. Inferential statistics
C. Descriptive statistics
D. Population statistics

Question 17/25

In statistical testing of the hypothesis, what happens to the region of rejection when the level of significance α is reduced?

A. The rejection region is increased in size
B. The rejection region is reduced in size
C. The rejection region is unaltered
D. The answer depends on the value of β

Question 18/25

Pr reasonably normally distributed with a mean of 18 and standard
deviation of 6, determine the proportion of students with a 33 or higher.

A. 0.0109
B. 0.0217
C. 0.0062
D. 0.0124

Question 19/25

The .ppf() function represents

A. percentage change in column value
B. the probability for a given normal distribution value,
C. the normal distribution value for which a given probability is the required value.
D. standard normal distribution z - score

Question 20/25

Which of the following is NOT correct?

A. The p-value measures the probability that the null hypothesis is true
B. The probability of a type I error is controlled by the selection of the level of significance α
C. The power of a test depends upon the sample size and the distance between the null hypothesis and the alternative hypothesis
D. The probability of a type II error is controlled by the sample size (n)

Question 21/25

A range (set) of values within which the population parameter is expected to occur is called:

A. confidence interval
B. Confidence limits
C. Level of confidence
D. Point estimate

Question 22/25

For example, we have two different plant genotypes (genotype A and genotype B) and would like to compare if the yield of genotype A is significantly different from genotype B

A. one sample paired t test
B. two sample independent t test
C. two sample unpaired t test
D. two sample paired t test

Question 23/25

A _____ is a numerical characteristic of a sample and a _____ is a numerical characteristic of a population.

A. Sample, population
B. Population, sample
C. Parameter, statistic
D. Statistic, parameter

Question 24/25

1-alpha is the probability of

A. Rejection Region
B. Acceptance Region
C. Type-II Error
D. Type-I Error

Question 25/25

What is the parameter known as that expresses number of standard deviations a given value x falls from the mean, μ.

A. significance level
B. population interval
z- score
D. confidence interval