Question 1

A researcher is testing a hypothesis of a single mean. The critical z-value for alpha = .01 and a one-tailed test is -2.33. The observed z-value from sample data is -2.45. The decision made by the researcher based on this information is to not reject the null hypothesis.

Select one:

True

False

Question 2

Suppose the alternative hypothesis in a hypothesis test is 'the population mean is greater than 65'. If the sample size is 50 and alpha = .05, the critical value of z is 1.645.

Select one:

True

False

Question 3

When a null hypothesis is rejected, the probability of committing a Type II error is 1 - b.

Select one:

True

False

Question 4

A null hypothesis is  . To test this hypothesis, a sample of 400 is taken and alpha is set at 0.05. If the true proportion is p = 0.60, the probability of a type II error is 0.45.

Select one:

True

False

Question 5

Consider the following null and alternative hypotheses.

 

These hypotheses indicate a two-tailed test.

Select one:

True

False

Question 6

A company believes that it controls more than 30% of the total market share for one of its products. To prove this belief, a random sample of 144 purchases of this product are contacted. It is found that 50 of the 144 purchased this company's brand of the product. If a researcher wants to conduct a statistical test for this problem, the alternative hypothesis would be the population proportion is greater than 0.30.

Select one:

True

False

Question 7

In performing a hypothesis test where the null hypothesis is that the population mean is 6.9 against the alternative hypothesis that the population mean is not equal to 6.9, a random sample of 16 items is selected. The sample mean is 7.1 and the sample standard deviation is 2.4. It can be assumed that the population is normally distributed. The observed 't' value for this problem is 1.33.

Select one:

True

False

Question 8

Restaurateur Daniel Valentine is evaluating the feasibility of opening a restaurant in Richmond. The Chamber of Commerce estimates that 'Richmond families, on the average, dine out at least 3 evenings per week'. Daniel plans to test this hypothesis at the 0.01 level of significance. His random sample of 81 Richmond families produced a mean of 2.7. Assuming that the population standard deviation is 1.8 evenings per week, the observed z-value is -1.50.

Select one:

True

False

Question 9

The portion of the distribution which is not in the rejection region is called the null region.

Select one:

True

False

Question 10

Sean Sinclair, Information Services Manager at Global Financial Services (GFS), suspects that at least 25% of email messages sent by GFS employees are not business related. A random sample of 300 email messages was selected to test this hypothesis at the 0.01 level of significance. Fifty-four of the messages were not business related. The appropriate decision is reject the null hypothesis.

Select one:

True

False

Question 11

Whenever hypotheses are established such that the alternative hypothesis is 'not equal to', then this would be a one-tailed test.

Select one:

True

False

Question 12

In performing a hypothesis test where the null hypothesis is that the population mean is 4.8 against the alternative hypothesis that the population mean is not equal to 4.8, a random sample of 25 items is selected. The sample mean is 4.1 and the sample standard deviation is 1.4. It can be assumed that the population is normally distributed. The level of significance is selected to be 0.10. The table 't' value for this problem is 1.711.

Select one:

True

False

Question 13

In a two-tailed hypothesis about a population mean with a sample size of 100 and alpha = 0.05, the rejection region would be z<-1.96 and z>1.96.

Select one:

True

False

Question 14

Auckland First Bank's policy requires consistent, standardised training of employees at all branches. Consequently, David Marshall, Human Resources Manager, is planning a survey of mean employee training time in the Southern region (population 1) and the Northern region (population 2). His null hypothesis is u1 - u2 </= 0

Select one:

True

False

Question 15

A company believes that it controls more than 30% of the total market share for one of its products. To prove this belief, a random sample of 144 purchases of this product are contacted. It is found that 50 of the 144 purchased this company's brand of the product. If a researcher wants to conduct a statistical test for this problem, the test would be a two-tailed test.

Select one:

True

False

Question 16

Ophelia O'Brien, Director of Consumer Credit with Auckland First Bank (AFB), monitors the default rate on personal loans at AFB member banks. One of her standards is 'no more than 5% of personal loans should be in default'. Each Friday, the default rate is calculated for a sample of 500 personal loans. Last Friday's sample contained 30 defaulted loans. Using = 0.10, the appropriate decision is do not reject the null hypothesis.

Select one:

True

False

Question 17

Consider the following null and alternative hypotheses.

 

These hypotheses indicate a one-tailed test with a rejection area in the left tail.

Select one:

True

False

Question 18

The region of the distribution in hypothesis testing in which the null hypothesis is rejected is called the rejection region.

Select one:

True

False

Question 19

In performing hypothesis tests about the population mean, the population standard deviation should be used if it is known. If it is not known, a t-test can be used to test the mean if the population mean is known.

Select one:

True

False

Question 20

The probability of committing a Type I error is called a (alpha).

Select one:

True

False