Question 1

The executives of StressFree Insurance feel that 'a majority of our employees perceive a participatory management style at StressFree'. A random sample of 200 StressFree employees is selected to test this hypothesis at the 0.05 level of significance. Ninety employees rate the management as participatory. The appropriate decision is:

Select one:

a. reduce the sample size

b. do not reject the null hypothesis

c. increase the sample size

d. reject the null hypothesis

Question 2

Suppose the alternative hypothesis in a hypothesis test is 'the population mean is less than 60'. If the sample size is 50 and alpha = .05, the critical value of z is:

Select one:

a. -1.645

b. -1.96

c. 1.645

d. 1.96

Question 3

Consider the following null and alternative hypotheses.



These hypotheses:

Select one:

a. do not reference a population parameter

b. are not collectively exhaustive

c. are established correctly.

d. are not mutually exclusive

Question 4

The probability of committing a Type I error is called:

Select one:

a. reliability

b. beta

c. the level of significance

d. the power of the test

Question 5

Suppose a researcher is testing a null hypothesis that. A random sample of n = 36 is taken resulting in a sample mean of 63 and s = 9. The observed z-value is:

Select one:

a. 0.22

b. 1.33

c. 8

d. -0.22

Question 6

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 observed z-value is \_\_\_\_\_\_\_:

Select one:

a. 0.046

b. -1.03

c. -0.046

d. 1.03

Question 7

When the rod shearing process at Newcastle Steel is 'in control' it produces rods with a mean length of 120 cm. Periodically, quality control inspectors select a random sample of 36 rods. If the mean length of sampled rods is too long or too short, the shearing process is shut down. The null hypothesis is:

Select one:

a. n ≠ 36

b. n = 36

c. µ = 120

d. µ ≠ 120

Question 8

In performing hypothesis tests about the population mean, the population standard deviation should be used if it is known. If it is not known, which of the following statistical tests should be used?

Select one:

a. z-test of a population proportion

b. z-test of a population mean

c. t-test of a population mean

d. x2-test of a population variance

Question 9

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 38 defaulted loans. Using = 0.10, the appropriate decision is:

Select one:

a. reduce the sample size

b. reject the null hypothesis

c. do not reject the null hypothesis

d. increase the sample size

Question 10

A researcher is testing a hypothesis of a single mean. The critical z-value for α =.05 and a two-tailed test is +1.96. The observed z-value from sample data is -2.11. The decision made by the researcher based on this information is to \_\_\_\_\_ the null hypothesis.

Select one:

a. redefine

b. not reject

c. reject

d. change the alternate hypothesis into.

Question 11

In a two-tailed hypothesis about a population mean with a sample size of 100 and alpha = 0.10, the rejection region would be:

Select one:

a. z -1.64 and z 1.64

b. z 1.28

c. z 1.64

d. z -1.28 and z 1.28

Question 12

The diameter of DVDs is normally distributed. Periodically, quality control inspectors at Dandenong DVDs randomly select a sample of 16 DVDs. If the mean diameter of the DVDs is too large or too small, the DVD punch is shut down for adjustment; otherwise, the punching process continues. The last sample showed a mean and standard deviation of 3.49 and 0.08 cm, respectively. Using = 0.05, the appropriate decision is \_\_\_\_\_\_\_:

Select one:

a. do not reject the null hypothesis and shut down the punch

b. reject the null hypothesis and shut down the punch

c. reject the null hypothesis and do not shut down the punch

d. do not reject the null hypothesis and do shut down the punch

Question 13

Jennifer Cantu, Customer Services Manager at Tri-Nation Auto Insurance, monitors the claims processing time of the claims division. Each week, her staff randomly selects a sample of 60 claims and tests the null hypothesis that the 'mean processing time is 5 days or less'. Jennifer chooses a 0.05 level of significance, the critical z-value is:

Select one:

a. -1.645

b. 1.645

c. 1.96

d. -1.96

Question 14

A researcher has a theory that the average age of managers in a particular industry is over 35-years-old, and he wishes to prove this. The null hypothesis to conduct a statistical test on this theory would be:

Select one:

a. the population mean =35

b. the population mean is less than or equal to 35

c. the population mean is greater than or equal to 35

d. the population mean >35

Question 15

Consider the following null and alternative hypotheses

 

These hypotheses:

Select one:

a. do not reference a population parameter

b. are not collectively exhaustive

c. are established correctly.

d. are not mutually exclusive

Question 16

A researcher has a theory that the mean for population A is less than the mean for population B. To test this, she randomly samples 36 items from population A and determines that the sample average is 38.4. She randomly samples 64 items from population B and determines that the sample average is 44.3. The population variance for A is 72 and the population variance for B is 48.0. Alpha is .05. The observed z-value is \_\_\_\_\_\_\_.

Select one:

a. -5.9

b. -3.56

c. -5.4

d. 0.54

Question 17

The first step in testing a hypothesis is to establish:

Select one:

a. a power function

b. a null hypothesis and alternative hypothesis

c. an indirect hypothesis

d. a non-rejection hypothesis and a rejection hypothesis

Question 18

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 using a random sample of 81 Richmond families. The critical z-value is \_\_\_\_\_\_\_\_\_\_:

Select one:

a. -2.33

b. 2.33

c. 2.58

d. -2.58

Question 19

Suppose you are testing the null hypothesis that a population mean is less than or equal to 80, against the alternative hypothesis that the population mean is greater than 80. If the sample size is 49 and alpha = .10, the critical value of z is:

Select one:

a. 1.645

b. -1.645

c. 1.28

d. -1.28

Question 20

Jennifer Cantu, Customer Services Manager at Tri-Nation Auto Insurance, monitors the claims processing time of the claims division. Each week, her staff randomly selects a sample of 64 claims and tests the null hypothesis that the 'mean processing time is 5 days or less' using a 0.10 level of significance. Last week the sample mean was 5.2 days. Assuming a population standard deviation of 0.56 days, the observed z-value is:

Select one:

a. 1.28

b. 0.36

c. 2.91

d. 2.86