Q1
1 Point

In the context of t-distribution, what role does the degrees of freedom (df) play?

- ○ It determines the level of confidence of the interval
- ○ It represents the variance of the population
- ○ It specifies the number of categories in the data
- ◉ It influences the shape of the distribution, based on sample size

Q2
1 Point

As the sample size increases, the t-confidence interval:

- ○ Remains the same
- ○ Cannot be determined
- ○ Becomes wider
- ◉ Becomes narrower

Q3
1 Point

The t-distribution is used instead of the normal distribution when:

- ◉ The population variance or population mean is unknown
- ○ The population variance is known
- ○ The sample mean is zero
- ○ The sample size is large

Q4
1 Point

Which assumption is NOT required for a valid one-sample t-test?

- ○ The population variance is unknown
- ◉ The population variance is known
- ○ The data is collected randomly
- ○ The sample mean is nearly normal

Q5
1 Point

Which of the following is necessary for conducting a difference of means test?

- ◉ The data must be collected from a random sample to keep the independence
- ○ The populations must be normally distributed
- ○ The sample sizes must be equal
- ○ The samples must be dependent

Q6
1 Point

The test statistic in a difference of means test is calculated by:

- ○ Taking the square root of the sum of sample variances
- ○ Adding the two sample means
- ○ Multiplying the two sample variances
- ◉ Dividing the difference of the point estimate of difference of sample means and the difference of means under null by the standard error of the difference

Q7
1 Point

A power calculation is used to determine:

- ○ The optimal level of significance for a test
- ○ The best statistical test for a study
- ○ The maximum effect size detectable in a study
- ◉ The minimum sample size needed for a study

Q8
1 Point

If the power of a test is low, it means that:

- ○ The test will always reject the null hypothesis
- ○ The sample size is too large
- ◉ The test is more likely to fail to reject a false null hypothesis
- ○ The effect size is too large