Q1
1 Point

Which of the following is an appropriate formulation of a null hypothesis?

- ○ $H_0 : \mu_1 - \mu_2 \neq 0$
- ○ $H_0 : p > 0.5$
- ○ $H_0 : \mu \neq 5$
- ◉ $H_0 : \sigma = 15$

Q2
1 Point

What is a Type I error in hypothesis testing?

- ○ Failing to reject a false null hypothesis
- ◉ Rejecting a true null hypothesis
- ○ Failing to reject a true null hypothesis
- ○ Accepting a false null hypothesis

Q3
1 Point

What does a significance level of 0.05 mean in hypothesis testing?

- ◉ There is a 5% chance of rejecting a true null hypothesis
- ○ There is a 95% chance of rejecting a true null hypothesis
- ○ There is a 95% chance of accepting a false null hypothesis
- ○ There is a 5% chance of accepting a false null hypothesis

Q4
1 Point

What does a p-value represent in hypothesis testing?

- ○ The probability of making a Type I error
- ○ The probability of making a Type II error
- ○ The probability that the null hypothesis is true
- ◉ A way of quantifying the strength of the evidence against the null hypothesis and in favor of the alternative hypothesis

Q5
1 Point

When conducting a formal hypothesis test using p-values, which of the following steps should be performed first?

- ○ Check conditions
- ◉ Set up the null and alternative hypotheses
- ○ Draw conclusions
- ○ Calculate the p-value

Q6
1 Point

What does the Central Limit Theorem (CLT) state about the sampling distribution of the sample mean or proportion?

- ◉ It will be approximately normally distributed, regardless of the shape of the population distribution
- ○ It will be bimodal
- ○ It will have the same shape as the population distribution
- ○ It will be skewed, regardless of the shape of the population distribution

Q7
1 Point

Which of the following best describes the consequence of choosing a very low significance level?

- It only affects the risk of making a Type I error
- It increases the risk of making a Type I error but decreases the risk of making a Type II error
- It decreases the risk of making a Type I error but increases the risk of making a Type II error
- It only affects the risk of making a Type II error