Guideline Quizzes for Module 13

Question 1

1 point

What is parametric bootstrapping primarily used for?

Choose at least one correct answer

(A) Estimating sample means

(B) Generating estimates by resampling from a model   Correct answer

(C) Estimating medians

(D) Hypothesis testing

Question 2

1 point

Which assumption is critical for parametric bootstrapping?

Choose at least one correct answer

(A) The data follows a known distribution   Correct answer

(B) The sample size is large

(C) The population is infinite

(D) The data is normally distributed

Question 3

1 point

How does parametric bootstrapping differ from non-parametric bootstrapping?

Choose at least one correct answer

(A) It does not involve resampling

(B) It assumes the data follows a parametric model   Correct answer

(C) It generates new data

(D) It does not require distributional assumptions

Question 4   1 point

What is the first step in parametric bootstrapping?

Choose at least one correct answer

| (A) Fit a parametric model to the data | Correct answer |

(B) Draw random samples from the data

(C) Estimate the population parameter

(D) Calculate the standard deviation

Question 5   1 point

What is the purpose of generating synthetic datasets in parametric bootstrapping?

Choose at least one correct answer

(A) To analyze non-parametric data

| (B) To simulate sampling variation under a parametric model | Correct answer |

(C) To test for significance

(D) To minimize standard errors

Question 6   1 point

In the context of regression models, what can parametric bootstrapping help estimate?

Choose at least one correct answer

(A) The sample mean

| (B) Standard errors and confidence intervals of regression coefficients | Correct answer |

(C) Fitted values

(D) Residuals

Question 7

1 point

Which of the following is a limitation of parametric bootstrapping?

Choose at least one correct answer

(A) It requires large sample sizes

(B) It relies on correct model specification — Correct answer

(C) It assumes independence of data points

(D) It can only be used with linear models

Question 8

1 point

How does parametric bootstrapping handle skewed data?

Choose at least one correct answer

(A) It normalizes the data before resampling

(B) It assumes the skewness is part of the parametric model — Correct answer

(C) It removes skewness by centering the data

(D) It rejects models with skewed data