1. What is the difference between a parameter and a statistic?

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1. Explain the concept of probability and its importance in statistics.

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1. What is the difference between discrete and continuous random variables?

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1. Define the term "outlier" and discuss its impact on statistical analysis.

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1. What are the assumptions of linear regression?

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1. What is the purpose of hypothesis testing in statistical analysis?

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1. Explain the concept of sampling techniques (e.g., random sampling, stratified sampling).

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1. What is the difference between Type I and Type II errors in hypothesis testing?

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1. Define the concept of p-value and its significance in hypothesis testing.

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1. What is the difference between a confidence interval and a prediction interval?

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1. Explain the concept of analysis of variance (ANOVA) and its applications.

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1. What is the difference between a t-test and z-test?

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1. Discuss the concept of multicollinearity in regression analysis.

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1. What is the purpose of a chi-square test? Provide an example of its application.

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1. Explain the concept of power in hypothesis testing.

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