Q1.How is the statistical significance of the insight assessed?

Ans. **Statistical significance is often calculated with statistical hypothesis testing, which tests the validity of a hypothesis by figuring out the probability that your results have happened by chance.**
Here, a "hypothesis" is an assumption or belief about the relationship between your datasets. The result of a hypothesis test allows us to see whether this assumption holds under scrutiny or not.

A standard hypothesis test relies on two hypotheses.

- **Null hypothesis: The default assumption of a statistical test that you're attempting to disprove (e.g., an increase in cost won't affect the number of purchases).**
- **Alternative hypothesis: An alternate theory that contradicts your null hypothesis (e.g., an increase in cost will reduce the number of purchases). This is the hypothesis you hope to prove.**

Q2.What is Mean?

Ans. **Mean is the average of the given numbers and is calculated by dividing the sum of given numbers by the total number of numbers.**

Q3.What is the meaning of standard deviation?

Ans. **A standard deviation (or σ) is a measure of how dispersed the data is in relation to the mean. Low standard deviation means data are clustered around the mean, and high standard deviation indicates data are more spread out**

Q4.What is correlation?

Ans. **Correlation is a statistical measure that indicates the extent to which two or more variables fluctuate in relation to each other.**

Q5.What is the meaning of covariance?

Ans. **Covariance is a measure of the relationship between two random variables and to what extent they change together. Or we can say, in other words, it defines the changes between the two variables, such that change in one variable is equal to change in another variable.**

Q6.Where are inferential statistics used?

Ans. **Inferential statistics can help in drawing conclusions from a sample to a population. We can use inferential statistics to examine differences among groups and the relationships among variables.**

Q7.What is one sample t-test?

Ans. **The one-sample t-test is a statistical hypothesis test used to determine whether an unknown population mean is different from a specific value.**

Q8.What is the difference between standard deviation and standard variance?

Ans.

Difference between Variance and Standard Deviation

Variance	Standard Deviation
It can simply be defined as the numerical value, which describes how variable the observations are.	It can simply be defined as the observations that get measured are measured through dispersion within a data set.
Variance is nothing but the average taken out of the squared deviations.	Standard Deviation is defined as the root of the mean square deviation
Variance is expressed in Squared units.	Standard deviation is expressed in the same units of the data available.
It is mathematically denoted as (σ_2)	It is mathematically denoted as (σ)
Variance is a perfect indicator of the individuals spread out in a group.	Standard deviation is the perfect indicator of the observations in a data set.

Q9.What is a one -way Anova test?

Ans. **One-way analysis of variance (ANOVA) is a statistical method for testing for differences in the means of three or more groups.**