You should start your video **by giving your name**. Then **state the part, question number, and read the second sentence of the question** before giving your answer and explanation. Make sure all assigned questions are addressed. End your video by **addressing anyone that you worked with** on this exam. Failure to acknowledge collaboration will result in a zero and may lead to a report to the Dean of Students

choose the most appropriate analysis from the following list of options: two-sample mean test, One-Way ANOVA, Two-Way ANOVA, Chi-squared independence, Chi-squared homogeneity, or none of the above. In your recorded video, explain your choice of analysis

3) A researcher is studying different fertilization methods for fruit tree production and whether the different types of fertilizers work differently in different varieties of trees. **In a particular orchard, they randomly assign 10 pear trees from each of three varieties (Bradford, Bosc, and Chojuro) to get one of three different types of fertilizer (brands A, B, and C), so n=90 trees in the study.** They measure the total amount of fruit produced in a season in total pounds from each tree

Two-Way Anova

Explanatory:

Varieties – Categorical

Fertilizer types – Categorical

Response:

Total amount in pounds per tree

work differently – so interaction

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10) What method of analysis is most appropriate for these data? **For this analysis, state the null and alternative hypotheses in words, with context.** Then provide a complete conclusion in context. Finally, provide a scope of inference for this study in context

Explanatory: alength (short, intermediate, long)

Response: deltaCT

One-Way ANOVA

H_o = There is no difference in the mean deltaCT for the alength groups (short, intermediate, long)

H_a = There is a difference in the mean deltaCT for the alength groups (short, intermediate, long)

Conclusion:

We have Some to Moderate evidence against the null that the mean deltaCT among the three alength groups is the same (F-statistic: 2.613 on 2 and 94 DF, p-value: 0.0786) Therefore, it is possible but slightly unlikely that all alength groups have the same average deltaCT

Scope of Inference:

There was no indication of random sampling and there was no random assignment as nobody was assigned alcohol dependence, so we can only claim an association between deltaCT and alength for the study participants

Resources