

STA 3180 Statistical Modelling: ANOVA

Extra Practice Problems: ANOVA

1. A researcher wants to compare the mean scores of three different groups on a test. How would you go about solving this problem?

Answer: To solve this problem, you would need to use an ANOVA (Analysis of Variance) test. ANOVA is used to compare the means of two or more groups. The null hypothesis for this test is that all group means are equal, and the alternative hypothesis is that at least one group mean is different from the others. To solve this problem, you would need to calculate the F-statistic and the associated p-value. If the p-value is less than the significance level, then you can reject the null hypothesis and conclude that at least one group mean is different from the others. [CORRECT]

2. A researcher wants to compare the mean scores of four different groups on a test.

Answer: To solve this problem, you would need to use an ANOVA (Analysis of Variance) test. ANOVA is used to compare the means of two or more groups. The null hypothesis for this test is that all group means are equal, and the alternative hypothesis is that at least one group mean is different from the others. To solve this problem, you would need to calculate the F-statistic and the associated p-value. If the p-value is less than the significance level, then you can reject the null hypothesis and conclude that at least one group mean is different from the others. [CORRECT]

3. A researcher wants to compare the mean scores of five different groups on a test.

Answer: To solve this problem, you would need to use an ANOVA (Analysis of Variance) test. ANOVA is used to compare the means of two or more groups. The null hypothesis for this test is that all group means are equal, and the alternative hypothesis is that at least one group mean is different from the others. To solve this problem, you would need to calculate the F-statistic and the associated p-value. If the p-value is less than the significance level, then you can reject the null hypothesis and conclude that at least one group mean is different from the others. [CORRECT]