The FINA Junior World Diving Championships is an elite dive meet where top divers around the world aged 16 to 18 compete. In this worksheet, you will determine if there is a significant difference in the average total

score between divers aged 16, 17, and 18.

**Calculate the mean and standard deviation for each age of divers.**

For the whole sample: n = 39, = 298.6615, and = 48.95357

|  |  |  |  |
| --- | --- | --- | --- |
| **Age** | **Sample Size** | **Mean** | **Standard Deviation** |
| 16 | 7 |  |  |
| 17 | 18 |  |  |
| 18 | 14 |  |  |

**ANOVA of Difference in Means of Diving Data:**

Complete an ANOVA test for the difference in mean total points between the different ages of divers. Use R

to fill in the data table below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **df** | **S.S.** | **M.S.** | **F-statistic** | **p-value** |
| **Students** |  |  |  |  |  |
| **Error** |  |  |  |
| **Total** |  |  |

Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Pairwise Comparisons using Fisher’s LSD:**

Compute the LSD using α = 0.05 level.

Verify your results with R. Based on your result, which age has a significantly different mean total points?

**Pairwise Comparisons using Tukey’s HSD:**

Compute the HSD using α = 0.05 level.

Verify your results with R. Based on your result, which age has a significantly different mean total points?

**Drawing conclusions:**

Which method do you prefer?

How is LSD different than Tukey’s HSD?

Why would you choose to use one over another?