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.

**Individual Tests for Difference in Means:**

For the whole sample: n = 39, $\overline{y}$ = 298.6615, and $s\_{y}$ = 48.95357

| **Age** | **Sample Size** | **Mean** | **Standard Deviation** |
| --- | --- | --- | --- |
| 16 | 7 | 268.25 | 34.2 |
| 17 | 18 | 305.59 | 38.8 |
| 18 | 14 | 304.96 | 62.4 |

Conduct a t-test for differences in means comparing the average total points for 16-year-old divers and

17-year-old divers. Include all parts of a hypothesis test, including hypotheses, t-statistic, and a conclusion.

$H\_{0}: $

$H\_{a}: $

Conduct a t-test for differences in means comparing the average total points for 18-year-old divers and

17-year-old divers. Include all parts of a hypothesis test, including hypotheses, t-statistic, and a conclusion.

$H\_{0}: $

$H\_{a}: $

Conduct a t-test for differences in means comparing the average total points for 16-year-old divers and

18-year-old divers. Include all parts of a hypothesis test, including hypotheses, t-statistic, and a conclusion.

$H\_{0}: $

$H\_{a}: $

Are there any differences in mean total points between different aged divers? If so, which one(s)?