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**STAT 460**

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**9.3.36**

The work for the given problem is shown below. The data sets and the difference of the data sets are shown in cell 1 along with the number of observations and the relevant RV for the t-test with n-1 degrees of freedom.

The summary of the sample statistics is shown as the output of cell 2 along with the t-test results below. It can be concluded that with a p-value = 0.064 which is greater than our significance level of 0.01, we fail to reject the null hypothesis. There is not sufficient evidence that the mean difference between unabraded and abraded condition breaking loads (in kg/25 mm width) is different from 0.

Text

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**9.4.52**

The work is shown below in the first screenshot for this problem, and the conclusions are shown in the second screenshot. A 95% confidence level was chosen since it is the most moderate, but it may be prudent to select a different confidence level based on the implications of the study.

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