**HW7: Analysis of Variance**

1. The impurities in parts per million were recorded for five batches of chemicals supplied by two different suppliers.

|  |  |
| --- | --- |
| Supplier I | Supplier II |
| Impurities (ppm) | |
| 25 | 32 |
| 33 | 43 |
| 42 | 38 |
| 27 | 47 |
| 36 | 30 |
| Sum=163 | Sum=190 |

1. Use analysis of variance procedures to test the difference between Supplier I and Supplier II in regard to the amount of impurities in their chemicals. Use 0.05 level to determine statistical significance. Set up an Analysis of Variance Summary Table to present the findings. (Total 8 pts: State H0 & Ha (1 pt), AOV Table (4 pts), Result: Reject or Accept H0 (1 pt), Type I error (1 pt), Type II error (1 pt))
2. Make your conclusion. (1 pt)
3. Use a Student’s t-test for the difference between two independent sample means (pooled formula) to test the difference between Supplier I and Supplier II in regard to the amount of impurities present in their chemicals. (Total 4 pts: t-value (1 pt), Result: Reject or Accept H0 (1 pt), Type I error (1 pt), Type II error (1 pt))
4. Compare the results of (1) and (3). (1 pt)