* Please complete the following problems using the instructions that are given.
* Please complete your answers to the questions and submit in MS Word.

Three assembly lines are used to produce a certain component for an airliner. To examine the production rate, a random sample of six hourly periods is chosen for each assembly line and the number of components produced during these periods for each line is recorded. The output from a statistical software package is:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Summary |  |  |
| Groups | Count | Sum | Average | Variance |
| Line A | 6 | 250 | 41.66667 | .266667 |
| Line B | 6 | 260 | 43.33333 | .666667 |
| Line C | 6 | 249 | 41.5 | .7 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | ANOVA |  |  |  |
| Source of Variation | SS | df | MS | F | p-value |
| Between Groups | 12.33333 | 2 | 6.166667 | 11.32653 | .001005 |
| Within Groups | 8.1666667 | 15 | .544444 |  |  |
|  | 20.4999967 | 17 |  |  |  |

* Use a .01 level of significance to test if there is a difference in the mean production of the three assembly lines.
* Develop a 99 percent confidence interval for the difference in the means between line A and line C.