\*\*All work shown (step by step), in simple terms please!!!

No excel, just formulas\*\*.

11) Four different assembly processes were under consideration. Sixteen workers were randomly assigned to the four processes, eight per process. The number of correctly assembled units in an eight-hour work shift was recorded:

|  |  |  |  |
| --- | --- | --- | --- |
| Process 1 | Process 2 | Process 3 | Process 4 |
| 31 | 29 | 28 | 32 |
| 36 | 32 | 36 | 33 |
| 36 | 35 | 29 | 33 |
| 34 | 32 | 31 | 31 |

|  |  |
| --- | --- |
|  | Answer |
| a. What is the value of SSF |  |
| b. What is the value of SST |  |
| c. What is the value of SSE |  |
| d. With the  = 0.05, is there a significant difference between the four process? |  |

12) The following regression equation was obtained using the five independent variables.

|  |
| --- |
| The regression equation issales = - 19.7 - 0.00063 outlets + 1.74 cars + 0.410 income + 2.04 age - 0.034 bossesPredictor Coef SE Coef T PConstant -19.672 5.422 -3.63 0.022outlets -0.000629 0.002638 -0.24 0.823cars 1.7399 0.5530 3.15 0.035income 0.40994 0.04385 9.35 0.001age 2.0357 0.8779 2.32 0.081bosses -0.0344 0.1880 -0.18 0.864S = 1.507 R-Sq = 99.4% R-Sq(adj) = 98.7%Analysis of VarianceSource DF SS MS F PRegression 5 1593.81 318.76 140.36 0.000Residual Error 4 9.08 2.27Total 9 1602.89(Minitab Software) |

1. What percent of the variation is explained by the regression equation?
2. What is the standard error ***of regression***?
3. What is the critical value of the *F-statistic*?
4. What sample size is used in the print out?
5. What is the variance of the slope coefficient of income?
6. Conduct a global test of hypothesis to determine if any of the regression coefficients are not zero.
7. Conduct a test of hypothesis on each of the independent variables. Would you consider eliminating outlets and bosses?