Extra Credit Due Date: 12/5 by 10 PM

Problem 1 (5 points): Take the given information df Error = 21, df Total = 24, SSR = 345, and SSE = 903 to construct an ANOVA table and show all steps for overall fit of regression.

Problem 2 (5 points): The following regression model is based on a data that consists of 20 weeks of a firm's accounting and production records on cost information about the firm's shipping department:

$$Lab = \beta_0 + \beta_1 Tws + \beta_2 Pst + \beta_3 Asw + \beta_4 Num + \epsilon, \quad (1)$$

where Lab = weekly labor hours, Tws = total weight shipped in thousands of pounds, Pst = proportion shipped by truck, Asw = average shipment weight in pounds, and Num = week number.

| Model | Sample Size | Multiple R- squared | Adjusted Multiple R-squared | Std. Error |
|-------|-------------|------------------------|--------------------------------|------------|
| 1 | 20 | 0.8196 | 0.7715 | 9.103 |

Complete the ANOVA table.

ANOVA

| Model | df | SS | MS | F-stat | Pr(>F) |
|------------|----|----------|----------|--------|------------------|
| Regression | | | 1411.513 | | .000 |
| Residual | | 1242.898 | | | |
| Total | | | | | |