Name:                                          ID:            Section:     Serial:

The following data where the predictor variables: sales of industry ($x_1$ in $ million) lagged by 2 years, consumer price index of previous month ($x_2$), and price of energy of the previous month ($x_3$ in $/kwh), are used to forecast the demand for cosmetics (**y**). Use the following MINITAB output to answer the following questions.

1. The number of observations is:_____
2. The regression equation is:

3. Interpret the value of $b_1$

4. Does the overall model significant? Explain

5. It is claimed that the sales affect the demand for cosmetics; perform a test at $\alpha = .05$.

6. Calculate the adjusted coefficient of determination, $R^2_{Adj}$ ? And **interpret** its value.

7. At 5% level of significance, does the price of energy make a significant contribution to the regression model?

```
Predictor     Coef   SE Coef      T       P
Constant     705.9     134.8   5.24   0.000
X1          0.6903    0.1551   4.45   0.001
X2          -6.879     1.320  -5.21   0.000
X3           28.44     17.67   1.61   0.139

S = 0.138891   , R-Sq =86.09%

Analysis of Variance

Source             DF        SS        MS
Regression        ___   1.19350   0.39783
Residual Error     10   0.19291   0.01929
Total             ___   1.38640

Source   DF    Seq SS
X1        1   0.07531
X2        1   1.06824
X3        1   0.04994
```