KFUPM | Term 121 | Date: 29/12/2012

Mathematics & Statistics | STAT 319 | Duration: 40 minutes

Quiz# 5

Name: ID #: Section 4 Serial #:

A morning newspaper lists the following used car prices for a particular model Japanese car with age X in years and asking price Y (in thousands) of dollars.

X (age)	2	2	11	8	6	5	2	11	4	5	3	3
Y (price)	10	5.8	1.8	2.2	2.8	3.5	9.4	1.1	4.5	7	8.5	13

Given that: $\sum_{i=1}^{12} x_i = 62$, $\sum_{i=1}^{12} x_i^2 = 438$, $\sum_{i=1}^{12} y_i = 69.6$, $\sum_{i=1}^{12} y_i^2 = 561.88$, $\sum_{i=1}^{12} x_i y_i = 251.7$, and hence; SSR = 98.944 and SST = 158.2.

a. Estimate regression line and predict the price for a car of 7 years old..

b. Compute the correlation coefficient, coefficient of determination, and interpret the result.

c. Construct a 95% confidence interval for the mean Price when the age is 7 (years).

d. Test that the car's price is significantly linearly related to its age.

With My Best Wishes