STAT-319-Term 163-Sec.04
Quiz #5

Name: **ID**

In reference to the data below, the independent variable x is SO2 deposition rate ($mg/m^2/day$) and the dependent variable y is the steel weight loss (g/m^2).

x	14	18	40	43	45	112
y	280	350	470	500	560	1200

Given that $\sum x_i = 272, \sum y_i = 3360, \sum x_i y_i = 210120$, $\sum {x_i}^2 = 18538, \sum {y_i}^2 = 2425400$

a. Find the equation of the estimated regression line between deposition rate and steel weight loss

b. What is the expected change in the steel weight loss if the deposition rate increased by 2.

c. Test, at 5% level of significance, the hypothesis that the higher the deposition rate, the more is the steel weight loss.

d. Compute the correlation coefficient and interpret its value.

e. Estimate, with 95% confidence, the expected steel weight loss if the deposition rate is 50.