Quiz 6 for Statistics 301
Elementary Statistical Methods - Spring 2001
Material Covered: Section 10.3 of Workbook and Section 10.2 of text
Friday, 13th April

This is a 15 minute quiz, worth 5% and marked out of 5 points. The total possible points awarded for each question is given in square brackets at the beginning of each question.

Name (please print): —————————————————— . **ID Number:** —————————————— .
last   first

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1. [2 points] Circle true or false.

(a) True / False The standard deviation of y about the least squares line is the same as the standard deviation of the error e, S_e.

(b) True / False Generally speaking, the higher the correlation between x and y, the better will be the predictions which are made using the least squares line provided the prediction is made for an x–value within the range of observed x–values.

(c) True / False The least squares line is used primarily to measure how linear the data is.

(c) True / False The least squares line is of no value in predicting y given x when $b \approx 0$.

2. Consider the following data of the hemoglobin A1C reading versus blood sugar readings of eight insulin dependent diabetics.

blood sugar reading, x	120	145	210	105	108	150	160	115
hemoglobin A1C reading, y	6.8	7.2	9.2	5.5	8.5	6.5	7.9	6.2

(a) [1 point] The linear regression equation is given by (circle closest one)

(i) $\hat{y} = 0.023 + 4.05x$

(ii) $\hat{y} = -4.05 - 0.023x$

(iii) $\hat{y} = -4.05 + 0.023x$

(iv) $\hat{y} = 4.05 + 0.023x$

(v) $\hat{y} = -4.05x + 0.023$

(b) [1 point] The standard error of estimate is
(circle closest one) **1.01 / 2.78 / 3.26 / 4.78 / 5.33**.

(c) [1 point] The standard error of estimate is a (circle one) **statistic / parameter**.

(1) **True, True, False, True**

(2a) (iv) $\hat{y} = 4.05 + 0.023x$

(2b) **1.01**

(2c) **statistic**