

Name Jenny

Student Number _____

STA 302f 2015 Quiz ~~9~~ 8

In homework, you analyzed the statclass data. Please base your answers on your R printout.

- (1 point) Write $\hat{\beta}_2$ in the space below. The answer is a number from your printout. Circle $\hat{\beta}_2$ on your printout, and write " $\hat{\beta}_2$ " beside it.

$$\hat{\beta}_2 = -2.9343$$

- (5 points) We want to know whether, controlling for quiz average and score on the midterm test, computer average is related to score on the final exam.

- In symbols, what is the null hypothesis?

$$H_0: \beta_2 = 0$$

- What is the value of the test statistic? The answer is a number from your printout.

$$t = -1.538$$

- What is the p -value? The answer is a number from your printout.

$$p = 0.12977$$

- Do you reject the null hypothesis at $\alpha = 0.05$? Answer Yes or No.

No

- In plain, non-statistical language, what do you conclude from this test? Use the words "Allowing for" instead of "Controlling for."

Allowing for midterm mark and quiz average, there is not enough evidence to conclude that computer average is related to mark on the final exam.

In Question 2, answers to any two parts must be consistent with one another or they are both wrong.

- (2 points) What is SSE ? Show the calculations based on numbers from your printout. The answer is a number. **Circle your answer.**

$$14.54 = \sqrt{MSE} = \sqrt{\frac{SSE}{54}} \Rightarrow 14.54^2 = \frac{SSE}{54} \Rightarrow SSE = 11416.23$$

- (2 points) What is the predicted final exam score for a student with a Quiz average of 10/10, a midterm mark of 100%, and Computer average of 0/10? The answer is a number. Show a little work; **Circle your answer.** It's okay if it's a little strange.

$$\hat{y}_0 = 9.1368 + 5.8710(10) - 2.9343(0) + 0.3246(100) = 100.3068$$

Attach your *complete* R printout to your quiz. Make sure your name and student number are written clearly on the printout.

A little strange.