Name _____

Student No. _____

STA 442/1008 Quiz 10

Consider your *multivariate approach* to a within-cases analysis of covariance for the Noise data. In this quiz, we are only interested in the main effect of age.

1. (1 Point) Give the numerical value of the F statistic and the p-value for testing the main effect of age. Is this test significant at the 0.05 level?

2. Follow the steps below to find the least-squares means for age.

   a. (1 Point) State the associated fitted regression function.

   b. (1 Point) Produce a table showing the relationship between the dummy variables in the fitted function and the age levels.

   c. (1 Point) What value should be substituted for the *quantitative* variable in the fitted function?

   d. (2 Points) Compute the least-squares means for age correct up to one decimal place.

Continued on reverse

3. (1 Point) When you do Bonferroni-corrected pairwise comparisons between marginal means, to what number are you comparing the p-values? The answer is a single number between zero and one. Note that the *joint* level is 0.05.

4. (1 Point) Which of the Bonferroni-corrected pairwise comparisons between marginal means are statistically significant at the *joint* 0.05 level? Give the numerical value of the *F* statistic and p-value for each one.

5. (2 Points) In plain, non-statistical language, what do you conclude? Remember to use the least-squares means you computed in part 2.

Total Marks = 10 points