Name _____

Student Number _____

STA 312 f2023 Quiz 9

1. In Question 15 of Assignment 9, you analyzed the `ColonCancer` data. The response variable is time in days until recurrence of the cancer. You began with a full model in which the explanatory variables were drug treatment condition (including Observation only), sex, age and number of lymph nodes affected. You want to know whether, taking into account sex, number of lymph nodes affected and drug treatment, the patient's age is related to time until recurrence.

   (a) (1 point) Using the order of variables in your fitted model, what is the null hypothesis?

   (b) (1 point) What is the value of the test statistic (z or chi-squared)? The answer is a number from your printout. Write the number in the space below.

   (c) (1 point) What is the p-value? The answer is a number from your printout. Write the number in the space below.

   (d) (1 point) Do you reject H_0 at $\alpha = 0.05$? Answer Yes or No.

   (e) (2 points) In plain, non-statistical language, what do you conclude?

   On your printout, circle the requested numbers, and write "Question 1" beside them.

2. At the end of Question 15 from Assignment 9, you calculated a predicted recurrence time and a 95% prediction interval for a patient in the Levamisole-only condition, with 6 affected lymph nodes.

   (a) (1 point) Give the predicted recurrence time *in years*. Write the number in the space below.

   (b) (3 points) Give the prediction interval, *in years*. Write the number in the space below.

   On your printout, circle the numbers, and write "Question 2" beside them. It is okay if the numbers on the printout are in days.

Please attach your printout, showing all input and output required to answer the questions above. **Make sure your name and student number are written on the printout**.