

Name \_\_\_\_\_

Student Number \_\_\_\_\_

## STA 441s 2024 Quiz 4

1. (2 points) Was the Diet study experimental, or observational? Why?
  
2. (4 points) In your analysis of the Diet data, you tested whether there was change in body weight with Diet 2.

(a) Fill in the table below.

$t$ , $\chi^2$ or $F$ Statistic (a number)	$p$ -value (a number or range)	Reject $H_0$ ? (Yes or No)	Statistically Significant? (Yes or No)

On your printout, circle the test statistic and write “Question 2” beside it.

(b) Is there any evidence of change in average weight with Diet 2? Answer Yes or No.

(c) In plain, non-statistical language, what do you conclude?

3. (4 points) In your analysis of the Diet data, you tested for difference between the three diets, and then followed up the result with pairwise comparisons. You did this three ways, following up a standard one-way ANOVA with Tukey tests, following up a Kruskal-Wallis test with three Bonferroni-corrected Kruskal-Wallis tests, and following up a randomization test on the raw scores with permutation-corrected  $p$ -values. *Please write the corrected  $p$ -values for the pairwise comparisons in the table below.* You don’t have to circle anything or write anything on the printout for this question.

	Correction Method		
	Bonferroni	Tukey	Permutation
Diet 1 vs. 2			
Diet 1 vs. 3			
Diet 2 vs. 3			

In plain, non-statistical language, what do you conclude?

**Attach your log file and your results file for the Diet Study only to the quiz paper.  
Make sure your name and student number are written clearly on both printouts.**