## Exercise 7: A Review – the effects of a weight loss drug

In a drug company, assume you have a sample of 30 mice (15 male, 15 female) you wish to test

the action of a weight loss drug on. At the beginning of your study, you record the preference of

the mice for IceCream and Spinach, and you record their weight. After giving the weight loss

drug for 1 year, you measure their weight again. The data are in the csv file entitled

‘weightlossdrug.csv’ on canvas.

Prepare a report for the principal scientist of the company that includes these things. Include as

much details as you can. Also be statistically accurate and detailed.

Task 1. Describe the dataset with mean, median, variance, etc. .

Task 2. Describe the dataset with at least 3 relevant graphs of different type such as histogram

(can be used to see if data are normal), bar graphs, etc.

Task 3. Find whether food preference (Spinach or IceCream) is independent of the sex of the

mice.

Task 4. Find whether the drug is causing weight loss or not.

Task 5. Determine if post-drug body weights differed between males and females.

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\* If you use a t-test, be sure to eyeball the data to determine if the data are normal, due to low

samples sizes. Include graphs to support this. Also, state the type t-test that you used.

\* For tasks 3 and 4, state the null hypothesis, alternative hypothesis, p values, etc for each task

clearly. Write a proper conclusion, and in introduction state why you are using a particular

statistical approach.