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HW 4

Question 1:

1. h0 => mean = 0

h1 => mean != 0

b) The best T-test to use is the one sample, with mu = 10

c) Of the 25 drinks tested for their sugar content, the mean of the sugar content was 9.986 with 0.034 as the standard deviation. A One Sample T-Test was performed on the data with a mu value of 10. The test returned a t-statistic of -2.021 and a p-value of 0.055, both values are just outside the point of refuting the null hypothesis. Meaning the null hypothesis holds and the drinks can claim to be 10 grams of sugar.

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Question 2:

a) You would use the paired sample t-test since it tests for differences between two different data sets.

b) h0 = no difference

h1 = there is a difference

c) see r file under # Question 2 and attached picture

d) Of the two 7-day samples provided, the mean difference after the sales event was $50.38 a day with 6 degrees of freedom. A paired sample t-test was performed comparing the two data sets resulting in a t-statistic of 2.6103 and a p-value of 0.04011. These values are not significant enough to refute the null hypothesis meaning that there is not a powerful enough effect to justify the sales program.

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