Question 3

Question a) Explain why the t-procedures would not be appropriate for the dataset in table 5:

The t-procedures would not be appropriate for the dataset in table 5, because it is unclear whether the results are independent of other important contributing factors or not. In the paragraph below table 5 in the article, it is explained that the description of how the data were gathered is insufficient to know whether the conditions the grain was grown in, was consistent from year to year. This calls any trends spotted in the data into question, as this data cannot be confirmed to be a simple random sample, which is an assumption required by the t-procedures.

Question b) Provide and interpret a confidence interval of 95% for table 11:

Passing the new values into R, the following result is gotten:

```
        Welch Two Sample t-test

data:  STAT2040_Chicks$SeriesA and STAT2040_Chicks$SeriesB
t = 1.9166, df = 17.815, p-value = 0.07147
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.1939461  4.1939461
sample estimates:
mean of x mean of y
       13        11
```

A 95% confidence interval for the true difference in means of the two Series groups in ounces is: (-0.193946, 4.1939461). Put into the context of the study, this test shows that the true difference between the two means lies somewhere between -0.194 ounces, and 4.194 ounces. This confidence interval shows the null hypothesis to be false at alpha values less than 0.71.