PRACTICE CLASS ASSIGNMENT 0

DEADLINE AUGUST 6, 5 PM

Feedback for A0Q0
The correct distribution type is F.
The correct H0 hypothesized variable is sigma(A)/sigma(B).
The correct H0 sign is >=.
The correct H0 hypothesized value is 1
The correct H1 hypothesized variable is sigma(A)/sigma(B).
The correct H1 sign is <.
The correct H1 hypothesized value is 1
The correct test value is 0.6721045369694018
The correct critical value is 0.46645402121644747
The conclusion is correct.
The question states that we need a flow that is consistently as close as possible to 237.7 ampere, so we are testing for variances. We need to do an F-test, and the hypotheses are:

 $H_0: \sigma_A/\sigma_B \geq 1$

 $H_1: \sigma_A/\sigma_B < 1$

We calculate the test value as follows:

$$F_{calc} = \frac{\sigma_1^2}{\sigma_2^2} = \frac{(9.1)^2}{(11.1)^2} = 0.6721$$
 (1)

We have a left-tail test, so we need α of the mass in the left tail. In Excel (or Open Office Calc) f.inv(0.05,19,21) results in a critical value of 0.4665. This means that we are not in the rejection region, and we accept the Null Hypothesis. The conclusion is that the Generator A does not work significantly better than Generator B.

Mark for this part = 10.0%	
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Total mark = 10.0	-