TWO-WAY ANOVA. PART III

b) H_0: $\mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$

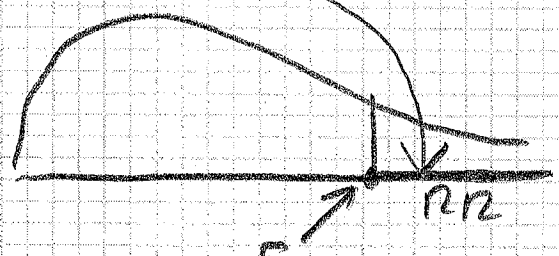
H_a: At least two treatment means differ

$\alpha = .05$

Test Statistic $F_T = 4.91$

Rejection Region

$F > 4.39$



Decision

Reject H_0

Conclusion:

The data provide sufficient evidence to conclude that at least two treatment means differ.

c) Test for Interaction

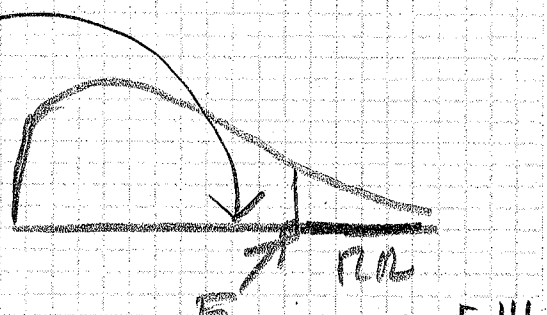
H_0: There is no interaction between Car and Tire

H_a: There is an interaction between Car and Tire

Test Statistic $F_{AB} = 4.88$

Rejection Region

RR: $F > 5.14$



Decision: Fail to reject H_0

Conclusion: ... insufficient ...

to conclude that there is an interaction

In which order should we do the tests?

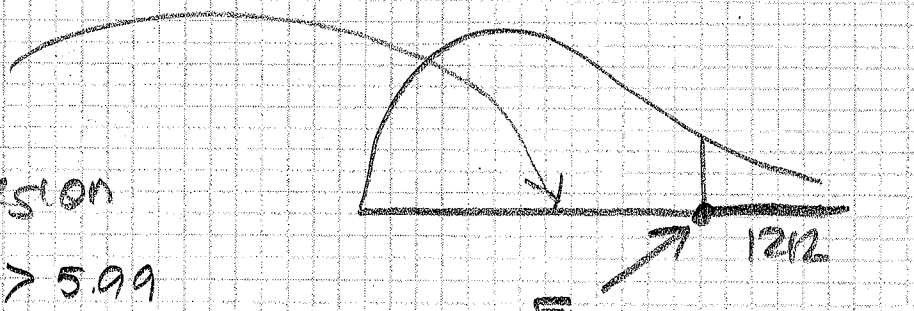
McClave

c) Test if the car model has a significant effect on the number of miles

H_0: The car model has no significant effect on the number of miles

H_a: It does

$F_{CAR} = .81$



Rejection Region

RR: $F > 5.99$

Decision: Fail to reject H_0

Conclusion:

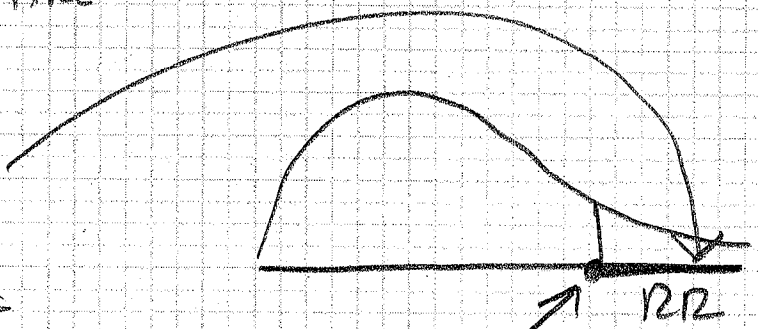
The data provide insufficient evidence to conclude that the car model has a significant effect on the life of the tire

d) Test if the brand of tire has a significant effect on the life of the tire (miles)

H_0: Brand does not have a significant effect on the life of the tire

H_a: It does

$F_{TIRE} = 7.01$



RR: $F > 5.14$

Decision: Reject H_0

Conclusion:

the data provide sufficient evidence to conclude that the Brand of tire has a significant effect on the life of the tire