**SP/RM[1,1] - Decomposition**

**Type in your score here 🡪 \_\_\_\_ out of 37 points possible**

1. (5 points) Ponder/Reflect Exercise – Reflect on what you have learned from this portion of the class. Examples of what you can do are: a brief outline of material covered, insights you gained from class or personal study, or items you feel that you need to follow up or work on. (3-5 sentences)

SPRM can be very useful when you want all factors to experience all treatments. This is very useful when working on like exercise and diet programs. This type of experiment has two types of blocking.

1. #C1(a,b,c,e) on page 266 (2 points each)

a. The whole plots are the sponges (3 from each color)

b. Between-blocks factor is the color of sponge. It is observational since we are getting three sponges from each population (not sure if it is random sponges since the book does not indicate that). Also, we did influence the results since the color of the sponges were already given to us.

c. The within-blocks factor is the location of the sponge (tip vs base). This is also observational since we are merely counting the cells within each of the locations.

**e.**

1. 

3. Consider the experiment described in Example 7.11 on page 261, with data given on the bottom of page 281.

(a) (4 points) The following is known about the analysis: mean of all observations = 21.25, SSplants = 483.75, SSdeblading = 24.5, SSinteraction = 265.75, SSresidual = 42.75, SStotal = 16194.

Using what you know about the design of the experiment and the information above, give the complete ANOVA table for the data including appropriate F-statistics and p-values. (You will want to use `1-pf(F-statistic, df1, df2)' in R to find the p-values.)



4. (4 points) #D1 on pages 278-9



5. (4 points) #D2 on pages 278-9



6. (4 points) #D3 on pages 278-9



7. (4 points) #D4 on pages 278-9



8. (4 points) #D11 (this is a SP/RM[1;1]) NOTE: With the information given, it is impossible to fill in the last two rows of the table for “Block.” Just do the rest of the problem on pages 278-9

