

# MTH 3220 Lab 6 **Answer Sheet**

Due Thu., Oct. 17

## 1 **Part A**

### 1.1 **Railroad Track Waves Data Set**

1. NA
2. NA
3. Give the estimated value of  $\sigma_A$ , the standard deviation of the  $N(0, \sigma_A)$  distribution of the **random effects**  $A_1, A_2, \dots, A_6$ . -----

## 2 **Part B**

### 2.1 **Soil Nitrogen Data Set**

1. NA
2. Write out the ANOVA table, then answer the questions:

Does **day** have any effect on the nitrogen analysis results? (Yes/No) -----

Does **operator** have any effect on the nitrogen analysis results? (Yes/No) -----

3. **Don't** print the plots. Just answer the following question.

Based on the plots, does the normality assumption about the error term  $\epsilon_{ij}$  in the ANOVA model appear to be met? (Yes/No) -----

4. Please answer the following questions.

Based on Tukey's multiple comparison procedure, which **days** differ from each other?

Based on Tukey's multiple comparison procedure, which **operators** differ from each other?