

# MTH 3240 Lab 6 Answer Sheet

♣♣♣ Due Thu., Mar. 5 ♣♣♣

## 1 Part A

### 1.1 Lakes' DOC Data Set

1. NA
2. *Don't* print the boxplots. Just answer the following question.

Based on the boxplots, which set of lakes' DOC concentrations changed more (Logged/Unlogged)?

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

Based on the plots, does the **normality** assumption, required for the *two-sample t test*, appear to be met for both samples? (Yes/No)? \_\_\_\_\_

4. For the *two-sample t test*, provide the following:

The test statistic value  $t =$  \_\_\_\_\_

The p-value = \_\_\_\_\_

Is the difference statistically significant  
(using  $\alpha = 0.05$ ) (Yes/No)? \_\_\_\_\_

What does this indicate about whether the  
impact event (logging) had any effect on the  
lake's dissolved organic carbon (Did/Didn't)? \_\_\_\_\_

## 2 Part B

### 2.1 Suspended Solids Data Set

1. NA
2. For the *rank sum test*, provide the following:

The test statistic value  $W =$  .....

The p-value = .....

Is the difference statistically significant  
(using  $\alpha = 0.05$ ) (Yes/No)? .....

What does this indicate about whether the  
impact event (logging) had any effect on the  
stream's suspended solids (Did/Didn't)? .....

### 3 Part B

#### 3.1 Depleted Uranium Data Set

1. NA
2. Which test should be used (two-sample  $t$  or rank sum)? .....

Why is the test chosen justified for this problem? Discuss any plots of the data used to support your answer.

#### 3.2 Soil Mercury Data Set

1. NA
2. Which test should be used (two-sample  $t$  or rank sum)? .....

Why is the test chosen justified for this problem? Discuss any plots of the data used to support your answer.

#### 3.3 Sludge Copper Data Set

1. NA

2. Which test should be used (two-sample  $t$  or rank sum)? .....

Why is the test chosen justified for this problem? Discuss any plots of the data used to support your answer.

### 3.4 Dissolved Organic Carbon Data Set

1. NA
2. Which test should be used (two-sample  $t$  or rank sum)? .....

Why is the test chosen justified for this problem? Discuss any plots of the data used to support your answer.