

# MTH 3240 Lab 2 Answer Sheet

◇◇◇ Due Thu., Feb. 6 ◇◇◇

## 1 Part A

### 1.1 Exhaust Hydrocarbons Data Set

1. NA
2. Give the endpoints of the 95% one-sample  $t$  CI for  $\mu$  below.

Based on the CI, is it plausible that the true (unknown) mean  $\mu$  is as high as 0.62 g/mi (Yes/No)? .....

## 2 Part B

### 2.1 Exhaust Hydrocarbons Data Set (Cont'd)

1. NA
2. Give the endpoints of the **95%  $t$  CI** for the true mean **log HC** concentration  $\mu$ .
3. Give the endpoints of the **95%  $t$  CI** *after converting them* back to the **original measurement scale, grams per mile**, below.

Are these endpoints the similar to the endpoints of the CI computed using the raw data in **Part A** (Yes/No)? .....

## 3 Part C

### 3.1 Public Nonparticipation Survey Data Set

1. NA

2. Use the table returned by `table()` to give the following values.

The number of "Yes" responses is \_\_\_\_\_

The number of "No" responses is \_\_\_\_\_

3. Give the endpoints of the 95% one-sample  $z$  CI for the population proportion  $p$  below.

Based on the CI, is it plausible that the true (unknown) proportion  $p$  is as high as 0.70 (Yes/No)? \_\_\_\_\_

The sample (point) estimate  $\hat{P}$  of  $p$  is in the output of `prop.test()` under `sample estimates`. Give its value below.

The estimate of  $p$  is  $\hat{P} =$  \_\_\_\_\_

## 4 Part D

### 4.1 Biosolids Salmonella Test Results Data Set

1. NA
2. Use the table returned by `table()` to give the following values.

The number of "Neg" test results is \_\_\_\_\_

The number of "Pos" test results is \_\_\_\_\_

3. Give the endpoints of the 95% one-sample  $z$  CI for the population proportion  $p$  below.

Based on the CI, is it plausible that the true (unknown) proportion  $p$  is as low as 0.10 (Yes/No)? \_\_\_\_\_

The sample (point) estimate  $\hat{P}$  of  $p$  is in the output of `prop.test()` under `sample estimates`. Give its value below.

The estimate of  $p$  is  $\hat{P} =$  \_\_\_\_\_