

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Lab 3D: Are You Sure About That? *Response Sheet*

Directions: Record your responses to the lab questions in the spaces provided.

#### In this lab

- The United States has an estimated population of 327,350,075. How many people were surveyed for this particular data set?
- Why is it important that the ATUS is a random sample?
- Use our atus data to calculate an estimate for the average age of people older than 15 living in the U.S.

#### Take a look

- Write a paragraph that explains to someone who is not familiar with R how you created `bs_rows` and `bs_atus`. Be sure to include an explanation of what the *values* of `bs_rows` mean and how those values are used to create `bs_atus`. Also, be sure to explain what each argument of each function does.

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#### Visualizing our bootstraps

- Create a histogram for your bootstrapped samples and describe the *center*, *shape* and *spread* of its distribution.

#### Bootstrapped confidence intervals

- Using your histogram, fill in the statement below:  
The lowest 5% of our estimates are below \_\_\_\_\_ years and the highest 5% of our estimates are above \_\_\_\_\_ years.
- Based on your bootstrapped estimates, between which two ages are we 90% confident the actual mean of people living in the U.S. is contained?

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## Lab 3D: Are You Sure About That?

### Response Sheet

## On your own

- Why is the 95% confidence interval wider than the 90% interval?
- Write down how you would explain what a 95% confidence interval means to someone not taking *Introduction to Data Science*.