

MITx: 14.310x Data Analysis for Social Scientists

Heli



**Bookmarks** 

▼ Module 1: The Basics of R and Introduction to the Course

Welcome to the Course

Introduction to R

### **Introductory Lecture**

Finger Exercises due Oct 03, 2016 at 05:00 IST

#### Module 1: Homework

Homework due Sep 26, 2016 at 05:00 IST

- Entrance Survey
- Module 2: Fundamentals of Probability, Random Variables, Distributions, and Joint Distributions
- Exit Survey

Module 1: The Basics of R and Introduction to the Course > Introductory Lecture > Data Is Insightful - Quiz

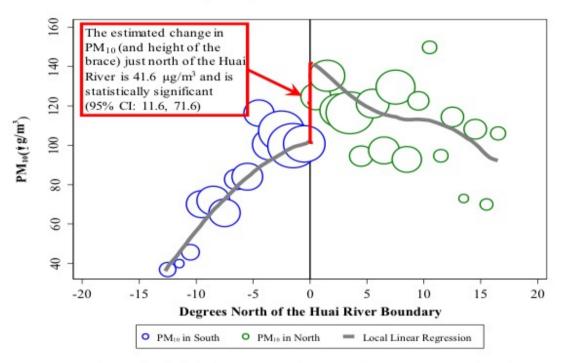
**■** Bookmark

# Question 1

(1/1 point)

Fill in the blank, based on the two-dimensional depiction of the difference in pollution levels to the North and South of Huai River shown below. The Huai River boundary itself is depicted by \_\_\_\_\_\_\_, particular matter levels to the North of the Huai River are depicted by \_\_\_\_\_\_, and particulate matter levels to the South of the Huai River are depicted by \_\_\_\_\_.

Figure 2
Particulate Matter Levels (PM<sub>10</sub>) South and North of the Huai River Boundary



Notes: Each observation (circle) is generated by averaging  $PM_{10}$  across the Disease Surveillance Point locations within a 1 degree latitude range, weighted by the population at each location. The size of the circle is in proportion to the total population at DSP locations within the 1 degree latitude range. The plotted line reports a local linear regression plot estimated separately on on each side of the Huai River.

a. The grey lines; all points above the grey lines; all points below the grey lines

- b. The grey lines; all green bubbles; all blue bubbles
- o. The vertical black line; all points above the grey lines; all points below the grey lines
- d. The vertical black line; all green bubbles; all blue bubbles

#### **EXPLANATION**

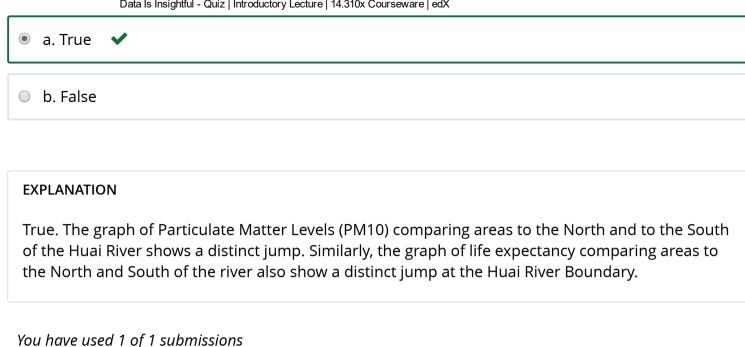
The diagram shown in class provides a wealth of insightful and relevant information in a relatively small space. The river itself is represented by the vertical line at 0 degrees of the Huai River Boundary. The blue bubbles to the left of the vertical line represent average levels of PM10 to the South of the Huai River Boundary, while the green bubbles represent average levels of PM10 to the North of the Huai River Boundary. In each case, the size of the bubble represents the size of the population in each location. The grey lines represent the relationship between distance from the Huai River boundary and particulate matter, with the only assumption about the structure of their relationship being that there may be a difference in the structure of the relationship among points to the North and points to the south of the river boundary

You have used 1 of 2 submissions

## Question 2

(1/1 point)

True or false: The research presented in class indicates that there was a significant difference in the level of particulate matter on each side of the Huai River boundary.



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