

MITx: 14.310x Data Analysis for Social Scientists

<u>Hel</u>j



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 Fundamentals of

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Estimation: An Example - Quiz

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Question 1

1/1 point (graded)

For the example distribution in lecture:

Suppose $X \sim U[0, heta]$

$$f_x(x) = \left\{ egin{array}{l} rac{1}{ heta}, \; 0 < x < heta \ 0, \; ext{otherwise} \end{array}
ight.$$

What are reasonable ways to estimate θ ? (Select all that apply)

- a. Compute the minimum of the sample
- extstyle ext
- $lue{}$ c. Compute the sample mean and divide by 2

- Module 5: Moments of a Random Variable,
 Applications to Auctions,
 Intro to Regression
- Module 6: Special
 <u>Distributions, the</u>

 <u>Sample Mean, the</u>
 <u>Central Limit Theorem,</u>
 and Estimation

<u>Human Subjects and Special</u> Distributions

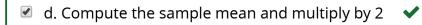
Finger Exercises due Nov 07, 2016 at 05:00 IST

The Sample Mean, Central Limit Theorem, and Estimation

Finger Exercises due Nov 07, 2016 at 05:00 IST

Module 6: Homework

Exit Survey





Explanation

The maximum will be a reasonable estimate, because θ is the maximum value that the distribution can take on. Since the expectation of the sample mean in this distribution is $\frac{\theta}{2}$, multiplying the sample mean by 2 will yield a reasonable estimate θ . The minimum of the sample will be close to zero. Dividing the sample mean by two will give us an expected value of $\frac{\theta}{4}$, which would not be a reasonable estimate of θ .

Submit You have use

You have used 1 of 2 attempts

✓ Correct (1/1 point)

Discussion

Topic: Module 6 / Estimation: An Example - Quiz

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