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The Sample Mean - Quiz

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Question 1

1/1 point (graded)

Which of the following is true about a sample mean? (Select all that apply)

- [x] a. It can be described as the arithmetic average of n random variables from a random sample of size n. ✔
- [x] b. It can be described as the arithmetic average of the realizations of n random variables. ✔
- [ ] c. It only applies to random variables from normal distributions
- [ ] d. It only applies to random variables from uniform distributions

✔

Explanation

The sample mean is the arithmetic average of the random variables, but also describes the arithmetic average of the realization of those random variables. As Professor Ellison mentioned in the lecture, we have to keep both of these descriptions in mind. C. and D. are incorrect, because the underlying

distribution of the random variables does not need to be normal or uniform in order to calculate the sample mean.

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)

Question 2

1/1 point (graded)

When the sample mean is defined as the arithmetic average of n random variables from random sample of size n, the sample mean will also be a random variable.

- (●) a. True ✔
- ( ) b. False

Explanation

A function of random variables must be a random variable. Being the arithmetic average of n random variables makes the sample mean a function of random variables, so the sample mean must be a random variable.

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