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Properties of Variance, Part I - Quiz

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Question 1

1/1 point (graded)

True or False: Variance can be positive or negative, depending on the random variable.

☐ a. True

☒ b. False ✓

Explanation

This is false. The first property described in class holds that the variance of any random variable must necessarily be non-negative. This can also be seen by looking at the formula for variance, $\text{Var}(X) = E[(X - \mu)^2]$, where the square term dictates that the expectation be non-negative.


Submit

You have used 1 of 1 attempts


✓ Correct (1/1 point)

▼ **Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression**


Moments of a Distribution and Auctions

Finger Exercises due Oct 31, 2016 at 05:00 IST 

Expectation, Variance, and an Introduction to Regression

Finger Exercises due Oct 31, 2016 at 05:00 IST 

Module 5: Homework

Homework due Oct 24, 2016 at 05:00 IST 

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Question 2

1/1 point (graded)

Suppose that you have a function, $Y = 5X + 2$, and the variance of X is 2 . What is the variance of Y ?

✓ Answer: 50

Explanation

We know from the properties of variance that if $Y = aX + b$, then $Var(Y) = a^2 Var(X)$. So, if $Y = 5X + 3$ and $Var(X) = 2$, then $Var(Y) = 5^2 * Var(X) = 25 * 2 = 50$.

You have used 1 of 2 attempts

✓ Correct (1/1 point)

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