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Probability Integral Transformation - Quiz

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Question 1

1/1 point (graded)

Suppose X is a continuous random variable, and is distributed uniformly over the interval $[0, 75]$. Let $Y = F_x(X)$.

True or False: The induced support, or range of F_X is also $[0, 75]$.

☐ True

☒ False ✓

Explanation


As Professor Ellison explained in class, whatever the support of X , Y lives on $[0, 1]$. This is because the Y is a CDF

.


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You have used 1 of 1 attempts

**Joint, Marginal, and
Conditional Distributions**

Finger Exercises due Oct 24, 2016
at 05:00 IST 

**Functions of Random
Variables**

Finger Exercises due Oct 24, 2016
at 05:00 IST 

Module 4: Homework

Homework due Oct 17, 2016 at
05:00 IST 

- ▶ [Module 5: Moments of a
Random Variable,
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& Intro to Regression](#)
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✓ Correct (1/1 point)

Question 2

1/1 point (graded)

Suppose X is a binomial random variable, with PDF $f_X(x)$ and CDF $F_X(x)$. Let $Y = F_X(X)$.

True or False: You can use the probability integral transformation method to find out how Y is distributed.

☐ True

☒ False ✓

Explanation

Since X is a binomial distribution, X is a discrete random variable. This implies that F_X is not invertible, and hence you cannot use the integral transformation method, because you cannot solve for X , since the inverse is not defined.

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