6. Probabilty Review: Probability Density Functions

Homework0 due Feb 8, 2023 08:59 -03 Completed

Concept Check

3/4 points (graded)

Let X be a **continuous** random variable with probability **density** function (pdf) $f_X(x)$

1. Does the value of $f_X(x)$ always lie withint the interval $[0,1]$? (Recall $[0,1]$ is th numbers between 0 and 1 including the end point 0 and 1.)

   - (●) yes
   - ( ) no

   ✖

2. For $a < b$, $\int_a^b f_X(x)\,dx \in [0,1]$ and represents the probability that the valu and b. (Recall the notation $y \in [0,1]$ means $0 \leq y \leq 1$)

   - (●) yes
   - ( ) no

   ✔

3. Is the value of $f_X(x)$ always non-negative?

   - (●) yes
   - ( ) no

   ✔

4. The value of integral $\int_{-\infty}^{\infty} f_X(x)\,dx$ of $f_X(x)$ from $-\infty$ to ∞ is a finite unkno

   - ( ) yes
   - (●) no

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