Exercise: LMS example

(1/1 point)

The random variables Θ and X are described by a joint PDF which is uniform on the triangular set defined by the constraints $0 \leq x \leq 1$, $0 \leq \theta \leq x$. Find the LMS estimate of Θ given that $X = x$, for x in the range $[0, 1]$. Express your answer in terms of x using standard notation .

x/2

Answer: x/2

Answer:
The conditional PDF of Θ given that $X = x$ is uniform on the set $[0, x]$. Thus, the conditional expectation of Θ given that $X = x$ is equal to $x/2$.

You have used 2 of 2 submissions