

MSAI Statistics & Probability – Week 4 Seminar & HW

Problem 1: Let x have exponential distribution with parameter $\lambda > 0$. Find the probability density functions of

1. x^n , $n \in \mathbb{N}$
2. $1 - e^{-x}$

Problem 2: Let x and y be independent random variables uniformly distributed on some interval $[0, a]$. Find the probability density functions of $x - y$ and $x \cdot y$.