UC Berkeley
Department of Electrical Engineering and Computer Sciences

EE126: Probability and Random Processes

Discussion 4
Spring 2017

Date: Wednesday, February 8, 2017

Problem 1. (a) Consider X_1, X_2 i.i.d. exponential random variables with rate λ. Find the distribution of $Y = X_1 + X_2$.

(b) Again, we consider X_1, X_2, i.i.d. exponential random variables with rate λ. Find the distribution of $\min X_1, X_2$.

(c) Suppose $X \sim U[0,1]$ and $Y = X^2$. What is $f_Y(y)$?

Problem 2. (Midterm 1 Spring 2015)

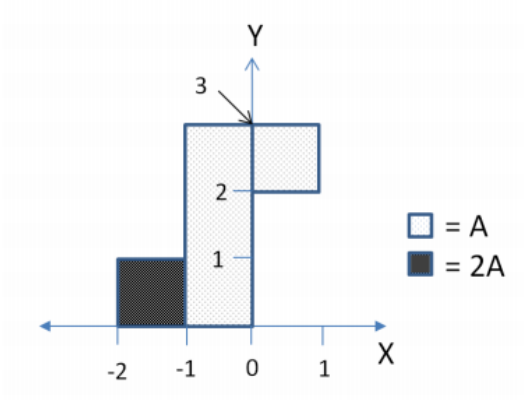

Figure 1: Joint pdf of X and Y.

(a) Find A.

(b) Find $cov(X, Y)$.