EAS595 HW 5

TEXT BOOK

6.2,6.3, 6.10,6.14 (Please note in some pdf versions the problems are listed as Ch 7!)

OTHER

(1) Let $\{N(t), t \in [0, \infty)\}$ be a Poisson process with $\lambda = 0.4$
   (a) Find the probability of no arrivals in $(2, 4]$
   (b) Find the probability of 1 arrival in (0,1], (3,5].
   (c) Find the probability of 1 arrival in (0,1] and 3 arrivals in (0,5].
(2) Let N1(t) and N2(t) be two independent Poisson processes with rates $\lambda_1 = 1$ and $\lambda_2 = 2$, respectively. Let N(t) be the merged process N(t)=N1(t)+N2(t). Find the probability that N(1)=2 and N(2)=5. Given that N(1)=2, find the probability that N1(1)=1.