9. Exercise: Poisson practice

Exercise: Poisson practice

0/1 point (graded)

Consider a Poisson arrival process with rate λ per hour. To simplify notation, we let $a = P(0,1)$, $b = P(1,1)$, and $c = P(2,1)$, where $P(k,1)$ is the probability of exactly k arrivals over an hour-long time interval.

What is the probability that we will have “at most one arrival between 10:00 and 11:00 and exactly two arrivals between 10:00 and 12:00"? Your answer should be an algebraic function of a, b, and c in standard notation.

(a+b)*4*a*c

✖ **Answer:** a*c+b^2

STANDARD NOTATION

Solution:

The event of interest can happen in two ways:
(i) Zero arrivals during the first hour and two arrivals over the second hour; this has probability ac.
(ii) One arrival during each one of the two hours; this has probability b^2.
Thus, the answer is $ac + b^2$. (Note that for both scenarios, we have used independence to find the associated probabilities.)

提交 你已经尝试了3次（总共可以尝试3次）

Answers are displayed within the problem

讨论

主题： Unit 9 / Lec. 22 / 9. Exercise: Poisson practice

显示讨论