

Exercises for seminar week 42

Rice, chapter 4: No. **75, 83** (use the mgf), **85** (see hint), **100** (read section 4.6 in Rice and (A4-5) in appendix 1 in Lecture notes to Rice chapter 5".)

Rice, chapter 5: No. **4, 5** (use Rice Ex4:83 and write λ_n for np so that $\lambda_n \rightarrow \lambda$), **12**

Hint for ex 4:85: Remember the sum of a geometric series:

$$1 + a + a^2 + a^3 + \dots = \sum_{i=0}^{\infty} a^i = \frac{1}{1-a} \text{ for all numbers, } a, \text{ such that } |a| < 1.$$

A common factor in such a series can be taken outside the sum as for finite sums:

$$\sum_{i=0}^{\infty} ca^i = c \sum_{i=0}^{\infty} a^i$$