

Homework 8 - Service Processes and Analysis of Customers' Patience.

Partial Solution.

Part 1

1. Given the survival function $S(t)$, the average service time could be calculated by the tail-formula

$$EX = \int_0^{\infty} S(t)dt . \quad (1)$$

If only the hazard rate $h(t)$ is given then, first, calculate the survival function using

$$S(t) = e^{-\int_0^t h(u)du} ,$$

and, then, apply the previous formula for the average service time.