TMA 4275 Lifetime Analysis 2020
Homework 2

Problem 1

(R&H, Ex. 2.17, slightly modified). The time to failure, T (hours), of an item is assumed to have a Weibull distribution with scale parameter $\theta = 2 \cdot 10^4$ and shape parameter $\alpha = 1.5$. Compute MTTF, SD(T) and median(T).

Problem 2

(R&H, Ex. 2.18, slightly modified). Let $T \sim Weib(\alpha, \theta)$. Show that the random variable

$$\left(\frac{T}{\theta}\right)^{\alpha}$$

is exponentially distributed with failure rate 1.

Problem 3

Exam 2004V, Problem 3a, 3c (see webpage "Earlier exams").

Problem 4

Exam 2005V, Problem 3a, 3b(except last two lines).