1. Consider the sequence of models

\[ \mathcal{M}_n = (\mathbb{R}, \mathcal{B}, \{N(\vartheta_n, 1), N(1, \sigma_n^2)\}) \]

(a) Find a limit model \( \mathcal{M} \), such that \( \lim_{n \to \infty} \Delta (\mathcal{M}, \mathcal{M}_n) = 0 \).

(a) Derive necessary and sufficient conditions on \( \vartheta_n \) and \( \sigma_n^2 \) such that \( \lim_{n \to \infty} \Delta (\mathcal{M}, \mathcal{M}_n) = 0 \).

2. Show that for binary models

\[ \mathcal{M} = (\mathcal{X}, \mathcal{B}, \{P, Q\}) \]

with standard distribution \( \mu \) it holds

\[ \int t_j \mu(dt_1, dt_2) = 1, \ j = 1, 2. \]

3. Discuss the step (C)\( \implies \) (B) in the proof of Theorem 6.21 for models

\[ \mathcal{M}_n = (\mathcal{X}, \mathcal{B}, \{P_{1,n}, P_{2,n}, P_{3,n}\}) \]