Probability Theory

Quiz 2

Question 1

State the Central Limit Theorem.

Question 2

Let X be a r.v. with Poisson(λ) distribution ($\lambda > 0$ fixed): compute its characteristic function ϕ_X.

Question 3

State Kolmogorov's 0–1 law.

Question 4

Let $(X_n)_{n \in \mathbb{N}}$ be a sequence of r.v.: give an example of a non-trivial event (i.e. $\neq \emptyset, \Omega$) in the associated asymptotic σ-algebra $\mathcal{F}_\infty$.