16. Let $\mathcal{S}$ be a sample space of an experiment, and $\mathcal{B}$ the smallest Borel field of sets in $\mathcal{S}$. Let A and B be any two sets in $\mathcal{B}$ such that $P(B) > 0$. Then the conditional probability of A given that B has occurred is

$$P(A|B) = \frac{P(A \cap B)}{P(B)}.$$

Prove the probability function $P(\cdot|B)$ satisfies Kolmogorov's Axioms.