

Exercise 2B11. Suppose \mathcal{T} is a σ -algebra on a set Y and $X \in \mathcal{T}$. Let

$$\mathcal{S} := \{E \in \mathcal{T} : E \subset X\}.$$

(a) Show that $\mathcal{S} = \{F \cap X : F \in \mathcal{T}\}$.

(b) Show that \mathcal{S} is a σ -algebra on X .

Proof. please put your proof of 2B11 here

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