

Homework 7 Question 5

A)

$$\begin{aligned} & (A \cap B) \cup (A \cap \bar{B}) \\ & A \cap (B \cup \bar{B}) \\ & A \cap S \\ & A \end{aligned}$$

B)

$$\begin{aligned} & B \cup (A \cap \bar{B}) \\ & (B \cap A) \cup (B \cap \bar{B}) \\ & (B \cap A) \\ & A \end{aligned}$$

C)

$$\begin{aligned} & (A \cap B) \cap (A \cap \bar{B}) \\ & A \cap (B \cap \bar{B}) \\ & \emptyset \end{aligned}$$

D)

$$\begin{aligned} & B \cap (A \cap \bar{B}) \\ & A \cap (B \cap \bar{B}) \\ & \emptyset \end{aligned}$$