

定理 1.12 集合 A, B, C について $A \cap (B - C) = (A \cap B) - (A \cap C)$ が成り立つ。

【証明】

$$\begin{aligned} A \cap (B - C) &= A \cap (B \cap \sim C) \\ &= (A \cap B \cap \sim A) \cup (A \cap B \cap \sim C) \\ &= (A \cap B) \cap (\sim A \cup \sim C) \\ &= (A \cap B) \cap \sim (A \cap C) \\ &= (A \cap B) - (A \cap C) \end{aligned}$$