

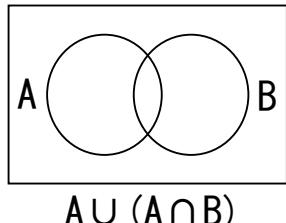
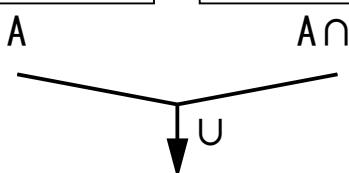
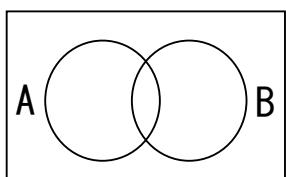
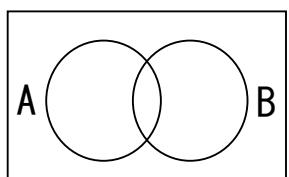
コンピュータ概論I 第5回練習問題

学籍番号

氏名

1. ベン図を用いて次の各法則を証明しなさい。(教科書 P109 問1)

$$(1) A \cup (A \cap B) = A$$

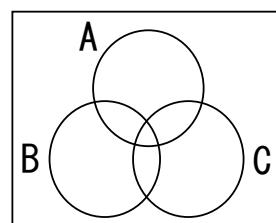
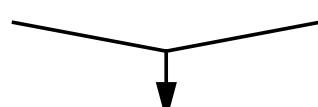
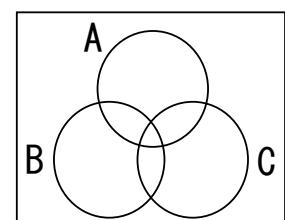
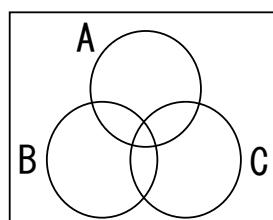


$$A \cup (A \cap B)$$

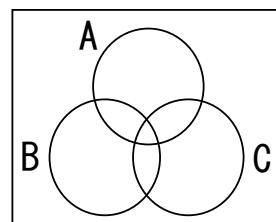
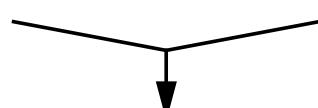
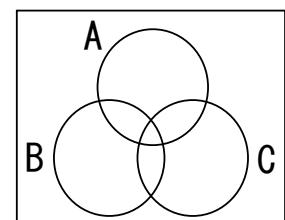
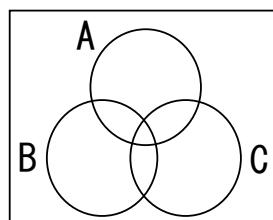
$$(2) A \cap (A \cup B) = A$$
 (ベン図は自分で書く!)

$$(3) A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$$

左辺のベン図



右辺のベン図



2. ブール代数の定理を用いて次の各論理式を証明
しなさい。教科書P75,P76のどの定理を用いた
か示すこと！(教科書 P109 問 4)

$$(1) \overline{\overline{A + B} + \overline{A + B}} = A$$

$$(4) A \cdot B + C \cdot D = (A + C) \cdot (A + D) \cdot (B + C) \cdot (B + D)$$

$$(2) (\overline{A} + \overline{B}) \cdot (A + B) + A = A + B$$

$$(5) \overline{A \cdot \overline{B \cdot \overline{C \cdot \overline{D}}}} = \overline{A} + B \cdot \overline{C} + B \cdot D$$

$$(3) A \cdot B + B \cdot C + \overline{A} \cdot C = A \cdot B + \overline{A} \cdot C$$