Observând că inf și sup arbitrare sunt egale unul altuia $\Rightarrow$ prin dualitate

$$\left(\bigwedge_{i\in I} a_i\right) \vee \left(\bigwedge_{j\in J} b_j\right) = \bigwedge_{i\in I}\bigwedge_{j\in J} (a_i \vee b_j) \quad (\circ)$$

$$\xRightarrow{(\circ),(\circ\circ)} \overline{\bigvee_{i\in I} a_i} = \bigwedge_{i\in I} \overline{a_i}$$

și $\overline{\bigwedge_{i\in I} a_i} = \bigvee_{i\in I} \overline{a_i}$

- Fie $x, y \in B$

$$\left(\bigvee_{i\in I} a_i\right) \wedge x \le y \quad (*) \quad \xLeftrightarrow{\text{rezid}} \bigvee_{i\in I} a_i \le x \to y \Leftrightarrow (\forall i \in I)\ a_i \le x \to y \xRightarrow{\text{rezid.}}$$

$$\Rightarrow (\forall i \in I)\ a_i \wedge x \le y \Leftrightarrow \bigvee_{i\in I}(a_i \wedge x) \le y \quad (**)$$

$$\left(\bigvee_{i\in I} a_i\right) \wedge \left(\bigvee_{j\in J} b_j\right) \quad (\le),\ (\ge) \quad \cancel{\bigvee_{i\in I}\bigvee_{j\in J}(a_i \wedge b_j)}$$

Luăm $y := \left(\bigvee_{i\in I} a_i\right) \wedge x \Rightarrow (*)$ e satisfacută $\to (**)$ e satisfacută

$$\Rightarrow \bigvee_{i\in I}(a_i \wedge x) \le \left(\bigvee_{i\in I} a_i\right) \wedge x \quad (\le)$$

Luăm $y : \bigvee_{i\in I}(a_i \wedge x) \Rightarrow (**)$ e satisf $\to (*)$ e satisf. $\Rightarrow$

$$\Rightarrow \left(\bigvee_{i\in I} a_i\right) \wedge x \le \bigvee_{i\in I}(a_i \wedge x) \quad (\ge)$$

$$\Rightarrow \left(\bigvee_{i\in I} a_i\right) \wedge x = \bigvee_{i\in I}(a_i \wedge x)$$

Luăm $x := \bigvee_{j\in J} b_j$

$$\Rightarrow \left(\bigvee_{i\in I} a_i\right) \wedge \left(\bigvee_{j\in J} b_j\right) = \bigvee_{i\in I}\left(a_i \wedge \left(\bigvee_{j\in J} b_j\right)\right) =$$

$$= \bigvee_{i\in I}\bigvee_{j\in J}(a_i \wedge b_j)$$