$$\bigvee_{o<e}^{\|}\ \bigwedge_{\|}^{\|}\ o \leqslant \| \leqslant e$$

$$\bigwedge_{\|}^{\|}\ \bigvee_{\bar{\|}}^{\|}\ \begin{cases} \| \wedge \bar{\|} = o \\ \| \vee \bar{\|} = e \end{cases}$$

$$\| \wedge \underbrace{\| \vee \|}_{} \underset{\text{D1}}{=} \underbrace{\| \wedge \|}_{} \vee \underbrace{\| \wedge \|}_{} \Leftrightarrow \| \vee \underbrace{\| \wedge \|}_{} = \underbrace{\| \vee \|}_{} \wedge \underbrace{\| \vee \|}_{}$$

$$\Rightarrow: \quad \| \vee \underbrace{\| \wedge \|}_{} \underset{\text{abs}}{=} \overbrace{\| \vee \underbrace{\| \wedge \|}_{}} \vee \underbrace{\| \wedge \|}_{} \underset{\text{ass}}{=} \| \vee \overbrace{\| \wedge \| \vee \| \wedge \|}$$

$$\underset{\text{D1}}{=} \| \vee \overbrace{\underbrace{\| \vee \|}_{} \wedge \|} \underset{\text{abs}}{=} \overbrace{\underbrace{\| \vee \|}_{} \wedge \|} \vee \overbrace{\underbrace{\| \vee \|}_{} \wedge \|} \underset{\text{D1}}{=} \underbrace{\| \vee \|}_{} \wedge \underbrace{\| \vee \|}_{}$$

$$\| \wedge \bar{\|} \ \text{eind}$$

$$\begin{cases} \| \vee \tilde{\|} = e \\ \| \wedge \tilde{\|} = o \end{cases} \Rightarrow \tilde{\|} \underset{\text{abs}}{=} \tilde{\|} \wedge \underbrace{\| \vee \tilde{\|}}_{} = \tilde{\|} \wedge \underbrace{\| \vee \bar{\|}}_{} \underset{\text{D1}}{=} \underbrace{\tilde{\|} \wedge \|}_{} \vee \underbrace{\tilde{\|} \wedge \bar{\|}}_{} = \underbrace{\bar{\|} \wedge \|}_{} \vee \underbrace{\tilde{\|} \wedge \bar{\|}}_{} \underset{\text{D1}}{=} \bar{\|} \wedge \underbrace{\| \vee \tilde{\|}}_{} = \bar{\|} \sqcap e = \bar{\|}$$

$$\bar{\bar{\|}} = \|$$

$$\bar{\bar{\|}} = \bar{\bar{\|}} \wedge e = \bar{\bar{\|}} \wedge \underbrace{\bar{\|} \vee \|}_{} = \underbrace{\bar{\bar{\|}} \wedge \bar{\|}}_{} \vee \underbrace{\bar{\bar{\|}} \wedge \|}_{} = o \vee \underbrace{\bar{\bar{\|}} \wedge \|}_{} = \underbrace{\bar{\|} \wedge \|}_{} \vee \underbrace{\bar{\bar{\|}} \wedge \|}_{} = \underbrace{\bar{\|} \vee \bar{\bar{\|}}}_{} \wedge \| = e \wedge \| = \|$$

$$\begin{cases} \bar{o} = e \\ \bar{e} = o \end{cases}$$

$$\begin{cases} o \vee e = e \\ o \wedge e = o \end{cases} \Rightarrow \begin{cases} \bar{e} = o \\ \bar{o} = e \end{cases}$$

$$a \leqslant b \Leftrightarrow a \wedge \bar{b} = o \Leftrightarrow \bar{a} \vee b = e \Leftrightarrow \bar{b} \leqslant \bar{a}$$

$$a \leqslant b \Rightarrow a \wedge \bar{b} = \underline{a \wedge b} \wedge \bar{b} = a \wedge \underline{b \wedge \bar{b}} = a \wedge o = o$$

$$a \wedge \bar{b} = o \Rightarrow \bar{a} \vee b = \overline{a \wedge \bar{b}} = \bar{o} = e$$

$$a \wedge \bar{b} = o \Rightarrow \bar{b} = \bar{b} \wedge e = \bar{b} \wedge \underline{a \vee \bar{a}} = \underline{\bar{b} \wedge a} \vee \underline{\bar{b} \wedge \bar{a}} = o \vee \underline{\bar{b} \wedge \bar{a}} = \bar{b} \wedge \bar{a} \Rightarrow \bar{b} \leqslant \bar{a}$$

$$\bar{b} \leqslant \bar{a} \Rightarrow a = \bar{\bar{a}} \leqslant \bar{\bar{b}} = b$$

$$\begin{cases} \overline{a \vee b} = \bar{a} \wedge \bar{b} \\ \overline{a \wedge b} = \bar{a} \vee \bar{b} \end{cases}$$

$$\begin{cases} a \vee b = \sup a{:}b \\ a \wedge b = \inf a{:}b \end{cases}$$