# P268. 1. 2.

## 1.

已知 $M \subseteq N$, 即 $\forall x, x \in M \rightarrow x \in N \equiv T \Leftrightarrow \neg x \in M \vee x \in N \equiv T$

$$
\begin{aligned}
\therefore M &= \{x|x \in M\} \\
&= \{x|x \in M \wedge (\neg x \in M \vee x \in N)\} \\
&= \{x|x \in M \wedge \neg x \in M \vee x \in M \wedge x \in N\} \\
&= \{x|x \in M \wedge x \in N\} \\
&= M \cap N
\end{aligned}
$$

$$
\begin{aligned}
\therefore N &= \{x|x \in N\} \\
&= \{x|x \in N \vee \neg(\neg x \in M \vee x \in N)\} \\
&= \{x|x \in N \vee (x \in M \wedge \neg x \in N)\} \\
&= \{x|(x \in N \vee x \in M) \wedge (x \in N \vee \neg x \in N)\} \\
&= \{x|x \in M \vee x \in N\} \\
&= M \cup N
\end{aligned}
$$

## 2.

$$
\begin{aligned}
\therefore M \cap (N \cup L) &= \{x|x \in M \wedge (x \in N \vee x \in L)\} \\
&= \{x|x \in M \wedge x \in N \vee x \in M \wedge x \in L\} \\
&= (M \cap N) \cup (M \cap L)
\end{aligned}
$$

$$
\begin{aligned}
\therefore M \cup (N \cap L) &= \{x|x \in M \vee (x \in N \wedge x \in L)\} \\
&= \{x|(x \in M \vee x \in N) \wedge (x \in M \vee x \in L)\} \\
&= (M \cup N) \cap (M \cup L)
\end{aligned}
$$