

S. 28

$$\begin{array}{l} A \cap (A \cup B) \\ (A \cup \Omega) \cap (A \cup B) \\ A \cup (\Omega \cap B) \\ A \cup \Omega \\ A \end{array} \left\{ \begin{array}{l} \text{neutral} \\ \text{Distributiv} \\ \text{Idempotenz} \\ \text{neutral} \end{array} \right.$$

$$\begin{array}{l} A \cup (A \cap B) \\ (A \cap \Omega) \cup (A \cap B) \\ A \cap (\Omega \cup B) \\ A \cap \Omega \\ A \end{array}$$

$$S \ 21 \ \text{Nr } 3 \quad A = \{1; 2; 3; 4; 6; 8; 10; 12\}$$

$$B = \{1; 3; 5; 7; 9; 11; 13\}$$

$$a) \quad A \cap B = \underline{\{1; 3\}} = \{y \in \mathbb{N} \setminus \{2\} \mid x \leq 3\}$$

$$= \{x \in \mathbb{N} \mid x \leq 3 \wedge x \bmod 2 < 0\}$$

$$b) \quad A \cup B = \{1; 2; \dots; 12; 13\} = \{x \in \mathbb{N} \mid x \leq 13\}$$

$$c) \quad A \setminus B = \{2; 4; 6; \dots; 10; 12\} = \{x \in \mathbb{N} \mid x \leq 12 \wedge x \bmod 2 = 0\}$$

$$d) \quad B \setminus A = \{5; 7; 9; 11; 13\} = \{y \in \mathbb{N} \setminus \overbrace{\{1; 3\}}^{\{1; 3\}} \mid x \leq 13 \wedge x \bmod 2 < 0\}$$

$$= \{x \in \mathbb{N} \mid 5 \leq x \leq 13 \wedge x \bmod 2 < 0\}$$