

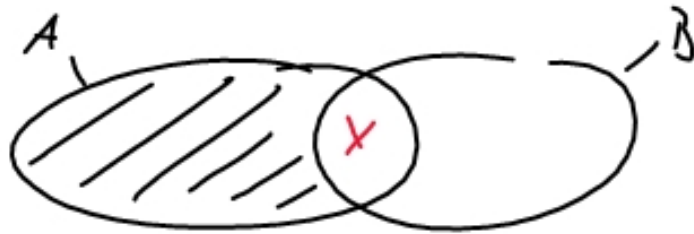
$A \cap B$



$A \cup B$



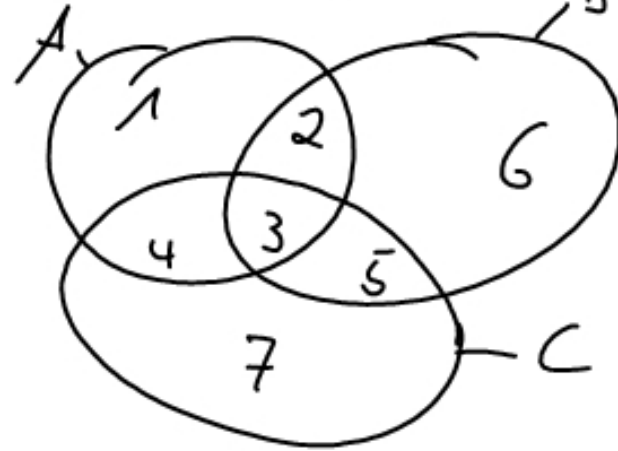
$A \setminus B$



$B \setminus A$



$$A \setminus B = \{1, 2, 3, 4\} \setminus \{2, 3, 5, 6\}$$
$$= \{1, 4\}$$



$$C \setminus (A \cup B) = \{7\}$$

$$C \setminus A \cup B$$

$$\{5, 7\} \cup \{2, 3, 5, 6\}$$

$$\{2, 3, 5, 6, 7\}$$

$$2) A = \{8; \underline{9}; 10; 12; 14; \underline{15}; 16; 18; 20; \underline{21}; 22\}$$

$$B = \{7; \underline{9}; 11; 13; \underline{15}; 17; 19; \underline{21}; 23\}$$

$$a) \boxed{A \cap B} = \{9; 15; 21\} = \{x \in [9; 21]_{\mathbb{N}} \mid x \bmod 3 = 0 \wedge x \bmod 6 < 0\} \\ \{x \in [9; 21]_{\mathbb{N}} \setminus \{12; 18\} \mid x \bmod 3 = 0\}$$

$$b) A \cup B = \{7; 8; \dots; 22; 23\} = x \in [7; 23]_{\mathbb{N}}$$

$$c) A \setminus B = \{8; 10; 12; 14; 16; 18; 20; 22\} \\ \{x \in [8; 22]_{\mathbb{N}} \mid x \bmod 2 = 0\}$$

$$d) B \setminus A = \{7; 11; 13; 17; 19; 23\}$$

$$= \{x \in [7; 23]_{\mathbb{N}} \mid x \bmod 2 < 0 \wedge x \bmod 3 < 0\}$$

$$\{x \in [7; 23]_{\mathbb{N}} \setminus \overset{9}{\{15; 21\}} \mid x \bmod 2 < 0\}$$

$$\mathbb{N} \subset \mathbb{Z} \subset \mathbb{Q} \subset \mathbb{R} \subset \mathbb{C}$$

$$\text{Periode} = 0,\overline{4} = \frac{4}{9}, \quad 0,\overline{135} = \frac{135}{999}$$

$$0,0\overline{7} = \frac{7}{90}$$

$$4 \cdot x - 9 = 7 \quad | +9$$

$$4 \cdot x - 9 + 9 = 7 + 9$$

$$4 \cdot x + 0 = 16 \quad | :4$$

$$1 \cdot 4 \cdot x + 0 = 16 \cdot 1/4$$

$$\boxed{1} \cdot x + \boxed{0} = 4$$

$$x = 4$$

neutral (Addition) $\hat{=}$ 0
neutral (Multiplikation) $\hat{=}$ 1

$$\overline{50} - \overline{8} = \overline{42}$$

$$\overline{50} + \overline{8} = 40 + 2 = 42$$

neutral Element

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

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

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

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

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

distri.

iden.

distri.

iden.

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

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

$$A \cap \Omega$$

$$A$$

neutral

$$* (A \cup B) \cap (A \cup \bar{B})$$

$$A \cup (B \cap \bar{B})$$

$$A \cup \{\}$$

$$A$$

distri.

Komplem.

neutral

$$\overline{A \cup B} \cup \overline{A \cup \bar{B}}$$

$$\overline{\overline{A \cup B}} \cap \overline{\overline{A \cup \bar{B}}}$$

de Morgan

*

doppelte Negation