

$$S28 \text{ No. 2} \quad A = \{ \dots; -10; -5; 0; 5; 10; \dots \}$$

$$B = \{ -10; -9; -8; \dots; 8; 9; 10 \}$$

$$a) A \cap B = \{ \pm 10; \pm 5; 0 \} = \{ x \in [-10; 10]_{\mathbb{Z}} \mid x \bmod 5 = 0 \}$$

$$b) A \cup B = \{ x \in \mathbb{Z} \mid x \bmod 5 = 0 \vee (x > -10 \wedge x < 10) \}$$

$$= \{ x \in \mathbb{Z} \mid x \bmod 5 = 0 \vee -9 \leq x \leq 9 \}$$

$$c) A \setminus B = \{ \dots; -20; -15; 15; 20; \dots \} \quad x \geq 15 \vee x \leq -15$$

$$= \{ x \in \mathbb{Z} \mid x \bmod 5 = 0 \wedge |x| \geq 15 \}$$

$$d) B \setminus A = \{ x \in [-10; 10]_{\mathbb{Z}} \mid x \bmod 5 \neq 0 \}$$

$$= \{ x \in (-9; 9)_{\mathbb{Z}} \setminus \{ \pm 5; 0 \} \}$$

$$S32 \text{ Nr. 2} \quad A = \{8; \underline{9}; 10; 12; 14; \underline{15}; 16; 18; 20; \underline{21}; 22\}$$

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

$$a) A \cap B = \{9; 15; 21\}$$

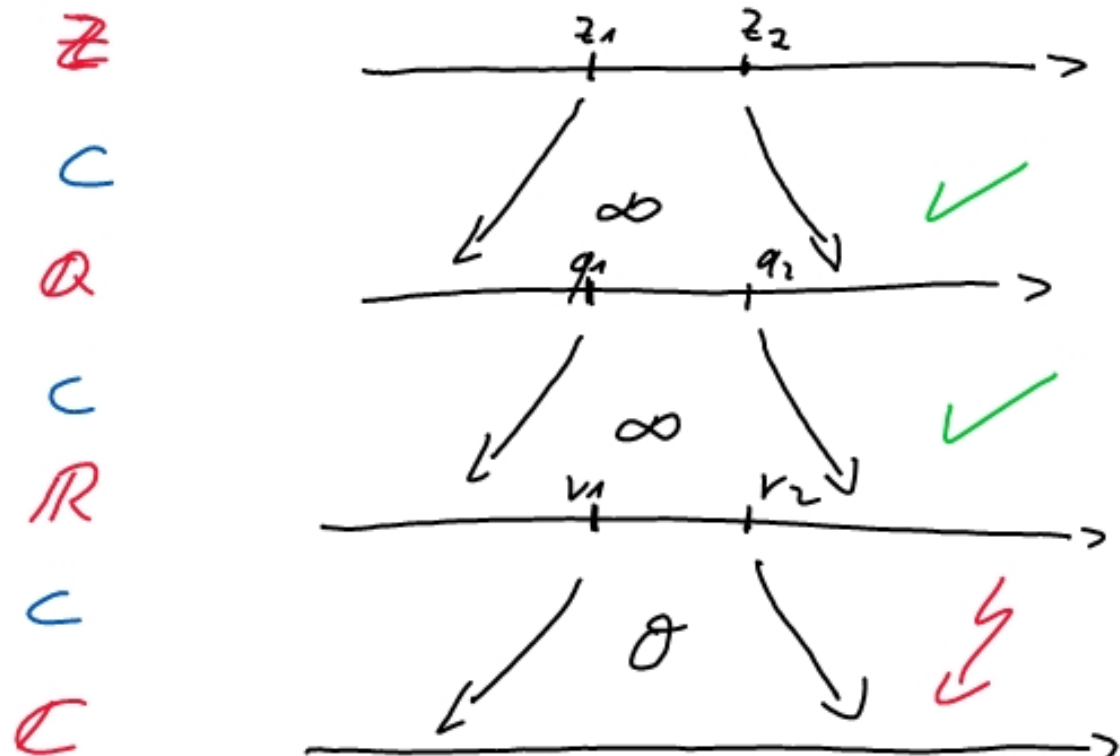
$$= \{x \in [9; 21]_{\mathbb{N}} \mid x \bmod 3 = 0 \wedge x \bmod 2 \neq 0\}$$

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

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

$$d) B \setminus A = \{x \in [7; 23]_{\mathbb{N}} \mid x \bmod 2 \neq 0 \wedge x \bmod 3 \neq 0\}$$

Zahlenmenge

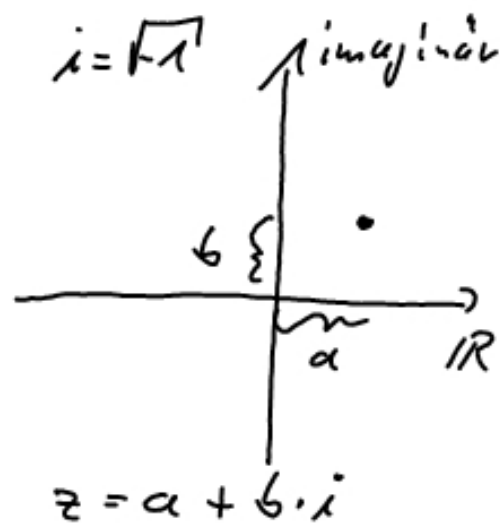


$$\mathbb{N}_0 = \{0; 1; 2; \dots\}$$

$$0,\overline{5} = \frac{5}{9}$$

$$0,0\overline{4} = \frac{1}{10} \cdot \frac{4}{9} = \frac{4}{90}$$

$$0,\overline{123} = \frac{123}{999}$$



$$2 \cdot x - 5 = 7$$

$+5$ (inverse -5)

$$2 \cdot x - 5 + 5 = 7 + 5$$

$$2 \cdot x + 0 = 12$$

$\cdot \frac{1}{2}$ 0 ist neutral ($+$)

$$\frac{1}{2} \cdot 2 \cdot x + 0 = \frac{1}{2} \cdot 12$$

\rightarrow ($\frac{1}{2}$ inverse $\cdot 2$)

$$1 \cdot x + 0 = 6$$

1 ist neutral (\cdot)

$$x = 6$$

$$\overline{12 + 30} = \overline{42}$$

$$\overline{12} - \overline{30} = 50 - 8 = 42$$



$$\overline{\overline{A}} = A$$