

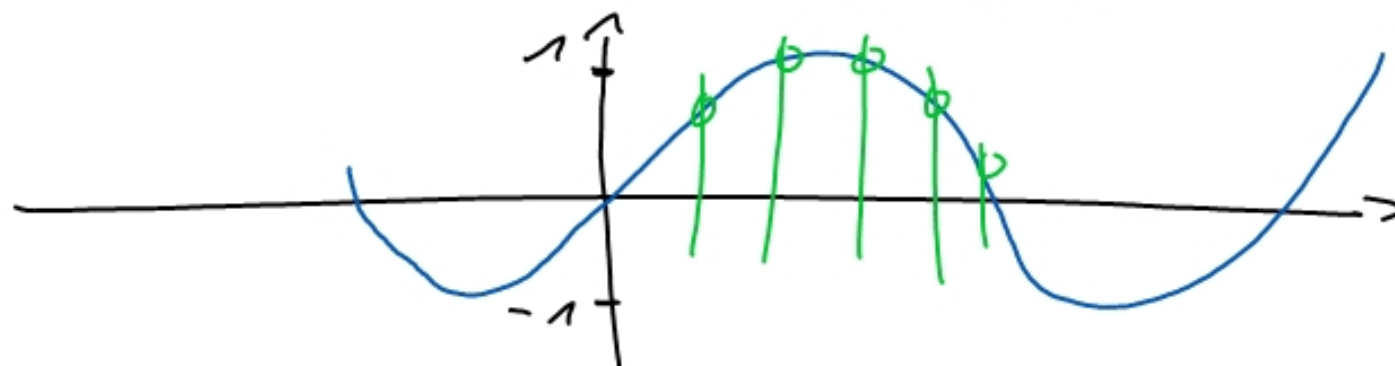
$$\mathcal{U} = \{(1; 2; 3; 4)\}$$

$(1; 3) \Rightarrow$ 2-dim. Tupel $\hat{=}$ Element

$$x \in (1; 3)_{\mathbb{N}} \hat{=} x \in]1; 3[_{\mathbb{N}} \hat{=} \text{offenes Intervall}$$

$x = 2$

$$\mathcal{D} = \{(\underline{x}; \underline{y}) \in \underbrace{\mathbb{R} \times [-1; 1]}_{\text{Kartesisches Produkt}} \mid \underbrace{y = \sin(x)}_{\text{mathem. Bedg.}}\}$$

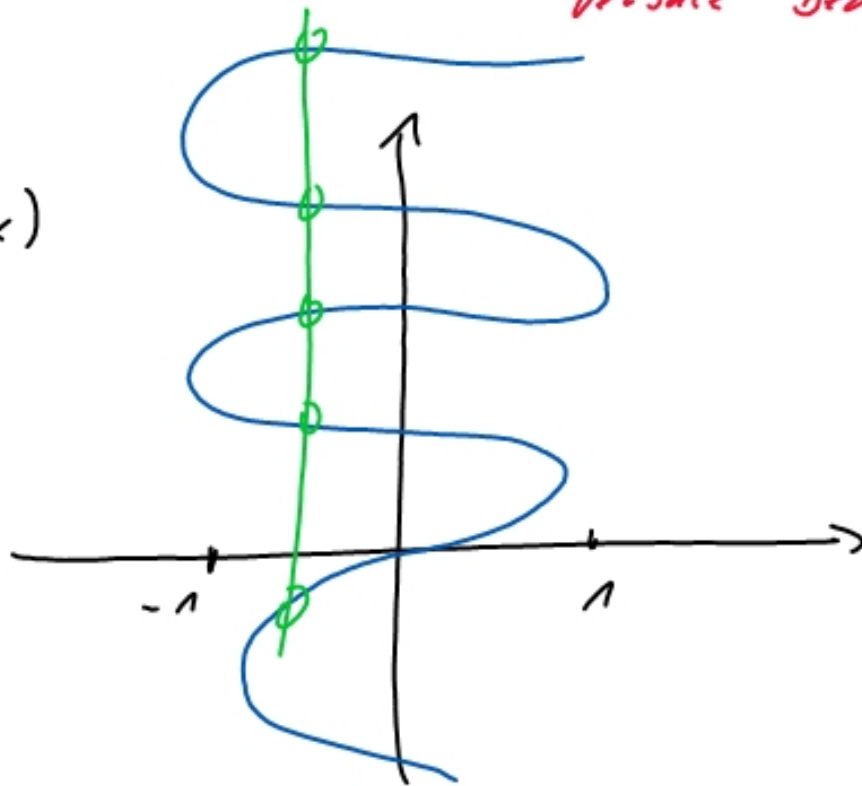


$M = \{ \text{Bewohner einer Stadt} \}$

$\text{☺} = \{ (x; y) \in M \times M \mid \text{Spoutant}(x) = \text{Spoutant}(y) \}$

versale Bedingung

Arcus
↑
 $f(x) = \text{arc sin}(x)$



S. 24

$$1) \quad \mu = \{ x \in (-100; 100)_{\mathbb{Z}} \mid x \bmod 15 = 0 \}$$

$$\{ x \in \mathbb{Z} \mid (x > -100 \wedge x < 100) \wedge x \bmod 3 = 0 \wedge x \bmod 5 = 0 \}$$

$$x \in \mathbb{Z} \quad \begin{array}{l} -100 < x < 100 \\ \hline \end{array} \quad / \quad x \in]-100; 100[_{\mathbb{Z}}$$

$$2) \quad \mu = \{ x \in \mathbb{N}^{\geq 10} \setminus \{42\} \mid x \bmod 4 = 0 \wedge x \bmod 6 < x \}$$

$$x \in [10; \infty[_{\mathbb{N}} \setminus \{42\} \quad x < 42$$

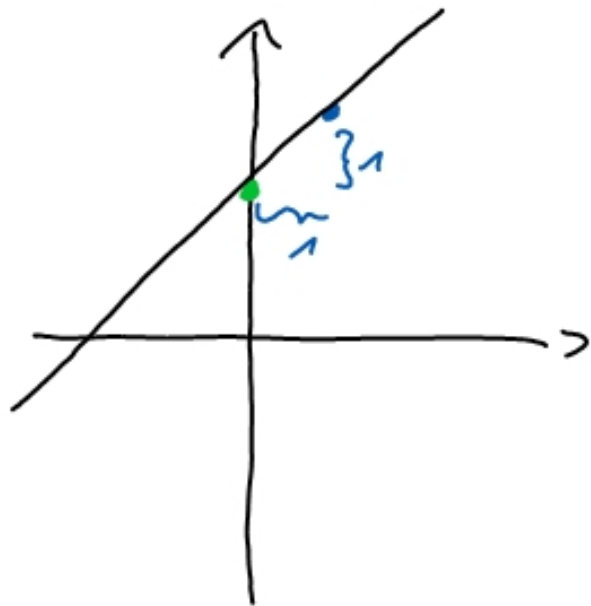
$$x \in \mathbb{N} \setminus \{42\} \mid x \geq 10$$

$$3) \quad S = \{ \text{Menge aller Studenten} \}$$

$$\# = \{ (x; y) \in S \times S \mid \text{Ges. Jahr}(x) = \text{Ges. Jahr}(y) \}$$

$$4) \quad \heartsuit = \{ (x; y) \in \mathbb{N} \times \mathbb{N} \mid y = \frac{1}{1}x + \underline{2} \}$$

$$\begin{aligned} P_1 &= (4 \mid 6) \\ P_2 &= (8 \mid 10) \\ P_3 &= (40 \mid 42) \\ P_4 &= (42 \mid 44) \end{aligned}$$



$$y = m \cdot x + b$$

↓ ↓ ↓
6 1 2
↓ ↓ ↓
b m y

Teilmenge / Element

\in : ist Element von...
→ Wert muss stimmen $\exists \in \text{Alpha}$.
→ Format muss stimmen $\exists \in \text{Alpha}$

\subset : echte Teilmenge \Rightarrow darf noch Teil sein

\subseteq : unechte Teilmenge : Gleichheit zulassen.