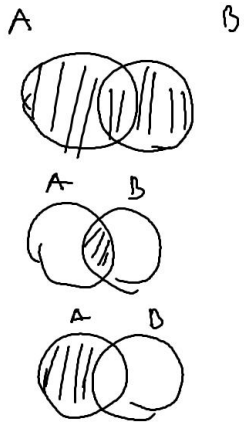


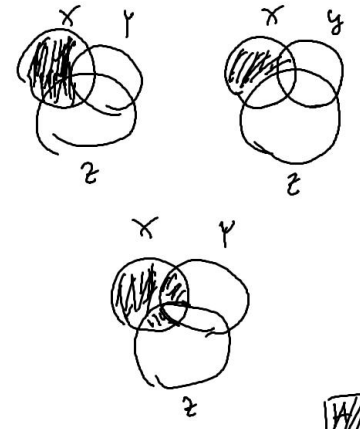
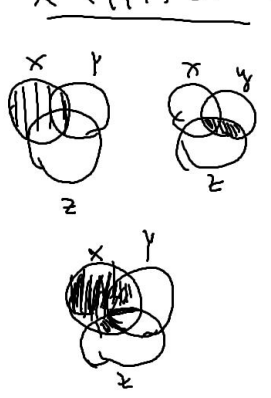
Halmazok, halmazműveletek, logika és bizonyítási módszerek

2022 március 09.

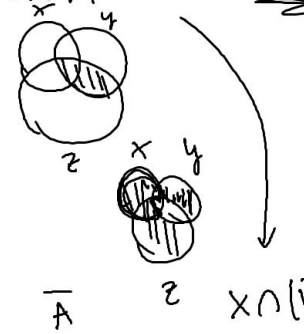


$$\begin{array}{l|l} & A : \{1, 2, 3, 4, 5\} \\ & B : \{2, 4, 6, 8\} \\ A \cup B & A \cup B : \{1, 2, 3, 4, 5, 6, 8\} \\ A \cap B & A \cap B : \{2, 4\} \\ & A \setminus B : \{1, 3, 5\} \\ A \setminus B & \emptyset = \{ \} \\ & A \setminus A := \{ \} = \emptyset \end{array}$$

$$X \setminus (Y \cap Z) = (X \setminus Y) \cup (X \setminus Z)$$



$$X \cap (\overline{Y \cap Z}) = (X \setminus Y) \cup (X \setminus Z)$$



$$\begin{aligned} \overline{A} \quad Z \quad X \cap (\overline{Y \cap Z}) \\ &= (X \cap \overline{Y}) \cup (X \cap \overline{Z}) \\ &= \underline{(X \setminus Y) \cup (X \setminus Z)} \end{aligned}$$

$$\sum_{i=0}^n \binom{n}{i} = 2^n \quad n \geq 0$$

n -elemes halmaz

2^n db rés-halmaz

$\emptyset \quad n=0 \quad 2^0 = 2^0 = 1$

$n=1 \quad 2^1 = 2 \rightarrow \emptyset$
 $\rightarrow 1$ elemes halmaz

$n=2 \quad 2^2 = 4$

$n \quad 2^n$

$(k+1) \quad ? \quad 2^{(k+1)}$

1, 2, 3, ... k

↑ ↑ ↑

2 · 2 · 2 · ...

$k \rightarrow 2^k$

$2 \cdot 2^k = 2^{(k+1)}$

$\rightarrow 2^n$

