

Vaje

A. Zapisi oznake za naslednje relacije med množicama A in B:

1. $(\exists x)(x \in A \wedge x \in B)$
2. $(\forall x)(x \in A \Rightarrow x \in B)$
3. $(\forall x)((x \in A \Rightarrow x \in B) \wedge (\exists x)(x \in B \wedge x \notin A))$
4. $(\forall x)((x \in A \Rightarrow x \in B) \wedge (x \in B \Rightarrow x \in C))$
5. $(\forall x)((x \in A \vee x \in B) \wedge (\exists x)(x \in A \wedge x \in B))$
6. $(\forall x)((x \in A \vee x \in B) \wedge \neg(x \in A \wedge x \in B))$

B. Izpii nasledne množice

- $A = \{1, 2, 3, 4\}, \mathcal{P}(A)$
- $A = \{1, 2, 3, 4\}, B = \{2, 3\} - A \cup B, A \cap B, A \setminus B$
- $A = \{1, 2, 3, 4\}, B = \{1, 2\} - S = A \cup B, \bar{A}, \bar{B}$
- $A = \{1, 2, 3, 4\}, B = \{1, 3\} - A \cup \mathcal{P}(B)$
- $A = \{1, 2, 3, 4\}, B = \{1, 4\} - A \cap \mathcal{P}(B)$
- $A = \{1, 2, 3, 4\}, B = \{5, 6, 7\} - A \cup B, A \cap B$

C. Definiri pojme in daj primer na množicah ki ima to lastnost in ena ki nima

- Komutativnost
- Idempotentnost
- Asociativnost
- Distributivnost

C. Narij Vennove diagram za nasledne množice -S je svet

- $A \cap B = \emptyset$
- $A \cap B = S$
- $A \cup B = \emptyset$
- $A \cup B = S$
- $\bar{A} \subseteq B$
- $A \cup B \subset C$

- $A \cap B \cap C \neq \emptyset$
- $(A \cup B) \cap C \neq \emptyset \wedge (A \cap B \cap C = \emptyset)$

E. Dokai nasledne identite

1. $A \setminus (B \cup C) = (A \setminus B) \cap (A \setminus C)$
2. $A \setminus (B \cap C) = (A \setminus B) \cup (A \setminus C)$
3. $(A \setminus B) \cup B = A$
4. $A \subseteq B \Rightarrow \mathcal{P}(A) \subseteq \mathcal{P}(B)$.
5. $\mathcal{P}(A) \cup \mathcal{P}(B) \subseteq \mathcal{P}(A \cup B)$.
6. $\mathcal{P}(A) \cap \mathcal{P}(B) = \mathcal{P}(A \cap B)$.
7. $A \times (B \cup C) = (A \times B) \cup (A \times C)$.
8. $A \times (B \cap C) = (A \times B) \cap (A \times C)$.
9. $A \times (B \setminus C) = (A \times B) \setminus (A \times C)$.