Clase 8

March 15, 2017

1 Ejercicios logica de conjuntos

Escriba en notación extensional

- $A = \{n \in \mathbb{N} : n^3 \leq n\}$

- B = P($\{0,\{1,2\}\}$)

- $C = \{k \in \mathbb{N} : n^3 < n\}$

- $D = \{a : a \in B \ \ y \ \ a \in P(\{1,2,3\})\}$

- $A = \{1,2,3\}, B = \{2,3,4\}. \ \ C = \{\{x,y\} : x \in A, y \in B\}$

Demuestre o refute

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

- $(A \cup B) \backslash A = B \backslash A$

- $A \backslash B \cap A \backslash C = A \backslash (B \cup C)$

- $A \cup B = A \cup C \Rightarrow B = C$

- $A \cap B = A \cap C \Rightarrow B = C$

- Si $|A| = 5$ y $|B| = 6$ entonces $|A \cup B| = 11$

Responda Verdadero o Falso

- $\forall A, B \ \ conjuntos : (P(A)xP(B)) = P(AxB)$

Sabiendo que $A \triangle B := (A \cup B) \backslash (A \cap B)$ compare los siguientes conjuntos:

- $P(U \backslash A)$ vs $P(U) \backslash P(A)$

- $A \triangle (B \cup C)$ vs $(A \triangle B) \cup (A \triangle C)$

- $A \triangle (B \cap C)$ vs $(A \triangle B) \cap (A \triangle C)$

- $(A \triangle B) \cup (A \triangle C) \cup (C \triangle D) = (A \cup B \cup C \cup D) \backslash (A \cap B \cap C \cap D)$