Portfolio

I. Proposition

A. For A, B⊆U, (A-B)∪(B-A)=(A∪B)-(A∩B).

1. Proof.

a. I will prove the following proposition.
$\forall_{A,A\in U}\ \forall_{B,B\in U}\ A\cap B^{C}=\Phi \Leftrightarrow A\subseteq B$

1. Here ⇔ is used to denote "is logically equivalent to" or "if and only if", or "iff". The letter Φ is used to denote the empty set {}. The letter U is used to denote the universal set and the superscript C is used to denote the set complement.

b. Let A and B be subsets of some universal set U.

c. (A⊆U)∧(B⊆U).

d. We will prove the propositions contrapositive.

1. The contrapositive is $A\cap B^{C}\neq\Phi\Rightarrow A\nsubseteq B$.

e. Assume $A\cap B^{C}\neq\Phi$. We will prove there must an exist an element p | (p∈A) ∧ (p∉B).

f. $\left(A\cap B^{C}\neq\Phi\therefore\left(\exists_{p,p\in A\cap B^{C}}\right)\therefore\right.$ **.**

$\left(\exists_{p,(p\in A)\wedge(p\in B^{C})}\right)\therefore\left(\exists_{p,(p\in A)\wedge(p\notin B)}\right)\therefore A\nsubseteq B$

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C. Enter level 2 text here.

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