

Homework 9

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Question 1

A) **Claim:** For all sets A and B: $A \cup B \subseteq A$

False. $A = \{1, 2, 3\}$, $B = \{4\}$. $A \cup B$ is not a subset of A.

B) **Claim:** For all sets H, I, J, and K: if $H \subseteq I$ and $J \subseteq K$, then $(H \cap J) \subseteq (I \cap K)$

Proof

Have H, I, J, and K.

— Assume $H \subseteq I$ and $J \subseteq K$