Discrete Math
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Quiz 1, Points: 8, Time: 10min
Date: 08.10.2025

Name: _____

Problem 1. *Let A, B be arbitrary sets. Prove that the condition $A \setminus B = \emptyset$ is identical to the condition $A \subseteq B$.*

Solution. Suppose $A \setminus B = \emptyset$. Let $x \in A$. Then $x \in Y$ otherwise $x \in A \setminus B$. Therefore $A \subseteq B$.

Suppose $A \subseteq B$. We prove that $A \setminus B = \emptyset$ by contradiction. Suppose $A \setminus B \neq \emptyset$. Let $x \in A \setminus B$. Then $x \in A, x \notin B$. This contradicts $A \subseteq B$. $\square$