Mathematical Proof

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February 13, 2019

Assignment #6

Question 1

Theorem 1. *If A is a set and $\{B_i | i \in I\}$ is an indexed family of sets. $A \times (\cup_{i \in I} = \cup_{i \in I})(A \times B)$.*

Proof. Suppose $(a, b) \in A \times (\cup_{i \in I})$. Then $a \in A$ and $b \in \cup_{i \in I}$. □

Question 2

Theorem 2.

Proof. □

a $S^{-1} \circ R$

S bleh bleh

b $R^{-1} \circ S$

R bleh

Question 3

Theorem 3.

Proof. □

a $R = Dom(R) \times Ran(R)$

S bleh bleh

b $(R \cap S)^{-1} = R^{-1} \cap S^{-1}$

R bleh

Question 4

Question 5

Question 6