

1. Prove $C \subseteq A \cap B \rightarrow C \subseteq A \wedge C \subseteq B$.
2. Prove $A \cup B \subseteq C \rightarrow A \subseteq C \wedge B \subseteq C$.
3. Prove $C \subseteq A - B \rightarrow B \cap C = \emptyset$
4. Prove $\emptyset \subset A$.
5. Show, for $n \in \mathbb{Z}$, that if $2|n$ and $3|n$ then $6|n$.
6. Show that if x and y are rational, then $x + y$ is rational.