

Proofs Involving Sets #3 (Biconditional Statements)

FALL 2005

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Instructions. Prove the following.

1. $A \cap B = \emptyset \Leftrightarrow (B \cap A^c) = B$

2. $A \cap B = \emptyset \Leftrightarrow (A \cup B^c) = B^c$

3. $A \subseteq B \Leftrightarrow (B \cap C) \cup A = B \cap (C \cup A)$ for all sets A .