Proofs

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1 1

Theorem. If A and B are sets where $A \cap B = A$ then $A \subseteq B$.

Proof.

Suppose A and B are sets where $A \cap B = A$.

To show $A \subseteq B$.

Chuse $x \in A$. By our assumption that $A \cap B = A$, x must also be an element of $A \cap B$. By the deffinition of intersection $x \in A \wedge x \in B$ by simplification we can remove $x \in A$. Thus $x \in B$. Since x was chosen arbitraraly from A and we showd that it followd that x is in B we conclude $A \subseteq B$.

□

2 2

a) (-1,2)

b) (-1,2)

c) A_5 (-5,6)

d) A_3 (-3,4)