

Problem Set 1

Warren Kim

April 8, 2023

Question 1 part (a)

In Q3(e) in HW1, we proved the De Morgan's laws in propositional logic. Here, we prove the equivalent laws in set theory.

(a) Prove the De Morgan's laws in set theory: Given two sets $A, B \subseteq X$, show that

$$(A \cup B)^c = A^c \cap B^c$$

$$(A \cap B)^c = A^c \cup B^c$$