

MATH310 Homework 2022-07-25
Due Gradescope 11:59pm 2022-07-27

1. Let A and B be sets. Prove that $\overline{A \cap B} = \overline{A} \cup \overline{B}$. [30 pts]

2. Let A and B be sets. Prove that $(A \cup B) - (A \cap B) = (A - B) \cup (B - A)$. [30 pts]

3. Prove that $A \cup B = A \cap B$ iff $A = B$. [30 pts]

4. Disprove by counterexample: For all sets A, B, C we have: [10 pts]

$$A - (B - C) = (A - B) - (A - C)$$