

1. Draw out the steps for making a set diagram for $A - B$ and $A \cap \overline{B}$ to show that they specify the same set.

2. Draw out the steps for making a set diagram for both sides of the equation, then write out a proof that the sets are equal for:

a. $\overline{A \cap B} = \overline{A} \cup \overline{B}$

b. $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$