

Set Laws

Commutativity

$$A \cup B = B \cup A$$

$$B \cap A = A \cap B$$

Idempotence

$$A \cup A = A$$

$$A \cap A = A$$

Associativity

$$A \cup (B \cup C) = (A \cup B) \cup C$$

$$A \cap (B \cap C) = (A \cap B) \cap C$$

Empty Set:

$$A \cup \emptyset = A$$

$$A \cap \emptyset = \emptyset$$

Distributivity

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

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

Absorption

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

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

These are all provable properties, so not *axioms* (statements that you just have to accept).