Idempotent Laws

- $X \cup X = X$
- $X \cap X = X$

Commutativity Laws

- $X \cup Y = Y \cup X$
- $X \cap Y = Y \cap X$

Associativity Laws

- $(X \cup Y) \cup Z = X \cup (Y \cup Z)$
- $(X \cap Y) \cap Z = X \cap (Y \cap Z)$

Distributivity Laws

- $X \cup (Y \cap Z) = (X \cup Y) \cap (X \cup Z)$
- $X \cap (Y \cup Z) = (X \cap Y) \cup (X \cap Z)$

Identity Laws

- $X \cup \emptyset = X$
- $X \cup U = U$
- $X \cap \emptyset = \emptyset$
- $X \cap U = X$

Complement Laws

- $X \cup X' = U$
- $(X')' = X$
- $X \cap X' = \emptyset$
- $X - Y = X \cap Y'$

De Morgan's Laws

- $(X \cup Y)' = X' \cap Y'$
- $(X \cap Y)' = X' \cup Y'$

Consistency Principle

- $X \subseteq Y$ omm $X \cup Y = Y$
- $X \subseteq Y$ omm $X \cap Y = X$