

Algebra of Sets

1. $A \cup B = B \cup A$ Union is commutative
2. $A \cap B = B \cap A$ Intersection is commutative
3. $A \cup (B \cap C) = (A \cup B) \cap C$ \cup is associative
4. $A \cap (B \cup C) = (A \cap B) \cup C$ \cap is associative
5. $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$ \cap is distributive over \cup
6. $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$ \cup is distributive over \cap
7. $(A^c)^c = A$
8. $(A \cap B)^c = A^c \cup B^c$
9. $(A \cup B)^c = A^c \cap B^c$ } called DeMorgan's Laws
10. $S^c = \phi$
11. $A \cap S = A$
12. $A \cap \phi = \phi$
13. $A \cup S = S$
14. $A \cup \phi = A$
15. $A \cup A^c = S$
16. $A \cap A^c = \phi$