Let A,B, and C be any sets and U the universal set, then :

1. $A \cap A = A$
2. $A \cup A = A$
3. $A \cap \emptyset = \emptyset$
4. $A \cup \emptyset = A$
5. $A \cap U = A$
6. $A \cup U = U$
7. $A \cap B = B \cap A$
8. $A \cup B = B \cup A$
9. $(A^c)^c = A$
10. $(A \cap B) \cap C = A \cap (B \cap C)$
11. $(A \cup B) \cup C = A \cup (B \cup C)$
12. $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$
13. $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$
14. $A \subseteq B \Leftrightarrow A \cap B = A$
15. $A \subseteq B \Leftrightarrow A \cup B = B$
16. $A \subseteq B \Leftrightarrow B^c \subseteq A^c$
17. $A \cap B \subseteq A \subseteq A \cup B$
18. $C - (A \cap B) = (C - A) \cup (C - B)$
19. $C - (A \cup B) = (C - A) \cap (C - B)$
20. $(B - A) \cup C = (B \cup C) - (A - C)$