

- 11. Distributivity**  
 $A \cup (B \cap C) = (A \cup B) \cap (A \cup C),$   
 $A \cap (B \cup C) = (A \cap B) \cup (A \cap C).$
- 12. Idempotency**  
 $A \cap A = A,$   
 $A \cup A = A$
- 13. Domination**  
 $A \cap \emptyset = \emptyset,$   
 $A \cup I = I$
- 14. Identity**  
 $A \cup \emptyset = A,$   
 $A \cap I = A$
- 15. Complement**  
 $A' = \{x \in I \mid x \notin A\}$
- 16. Complement of Intersection and Union**  
 $A \cup A' = I,$   
 $A \cap A' = \emptyset$
- 17. De Morgan's Laws**  
 $(A \cup B)' = A' \cap B',$   
 $(A \cap B)' = A' \cup B'$
- 18. Difference of Sets**  
 $C = B \setminus A = \{x \mid x \in B \text{ and } x \notin A\}$

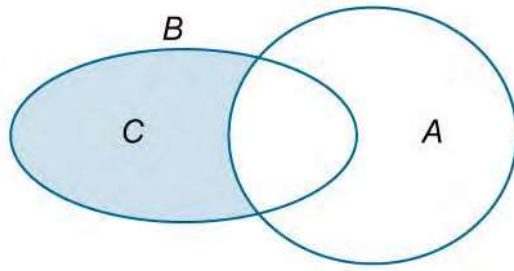


Figure 3.

19.  $B \setminus A = B \setminus (A \cap B)$

20.  $B \setminus A = B \cap A'$

21.  $A \setminus A = \emptyset$

22.  $A \setminus B = A$  if  $A \cap B = \emptyset$ .

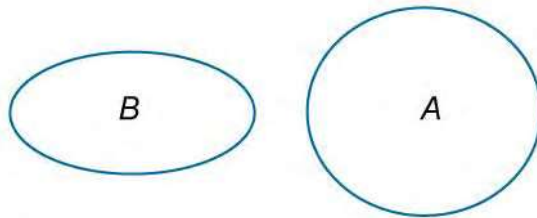


Figure 4.

23.  $(A \setminus B) \cap C = (A \cap C) \setminus (B \cap C)$

24.  $A' = I \setminus A$

25. Cartesian Product  
 $C = A \times B = \{(x, y) \mid x \in A \text{ and } y \in B\}$