A ∩ (B ∩ C) = (A ∩ B) ∩ C

Distributive Laws: If A, B and Care three sets, then

A ∪ (B ∩ C) = (A ∪ B) ∩ (A ∪ C)

A ∩ (B ∪ C) = (A ∩ B) ∪ (A ∩ C)

De-Morgan's Laws: If A and B are two sets, then

(A ∪ B)' = A' ∩ B'

(A ∩ B)' = A' ∪ B'

Formulae to Solve Practical Problems on Union and Intersection of Two Set,

Let A, B and C be any three finite sets, then

n(A ∪ B) = n(A) + n (B) − n(A ∩ B)

If (A ∩ B) = Φ, then n (A ∪ B) = n(A) + n(B)

n(A − B) = n(A) − n(A ∩ B)

n(A ∪ B ∪ C) = n(A) + n(B) + n(C) − n(A ∩ B) − n(B ∩ C) − n(A ∩ C) + n(A ∩ B ∩ C).