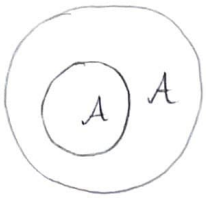
10.

(1)

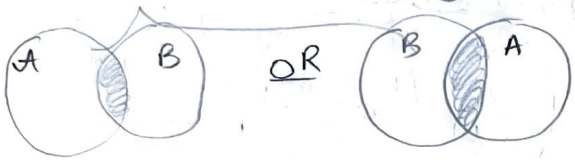


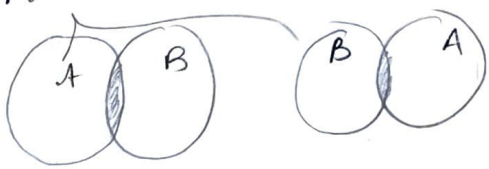
$A + A = A$

$A \cdot A = A$

Idempotent Law

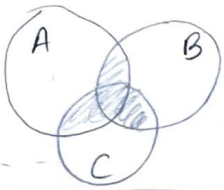
(2) $AB = BA$ Commutative Property $A + B = B + A$



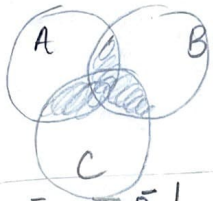


Because you can change the order, for both add or multiply, you get the same answer.

(3) - Associativity Property

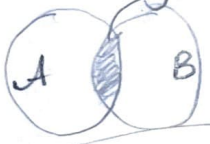


$A(BC) = (AB)C = ABC$

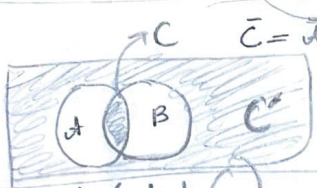


$A + (B + C) = (A + B) + C$
$= A + B + C$

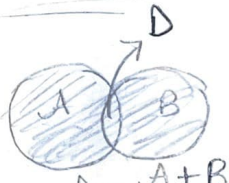
(4) Duality Property:



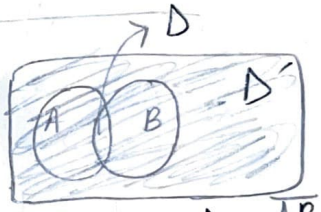
$C = A \cdot B$



$\bar{C} = \bar{A} + \bar{B}$



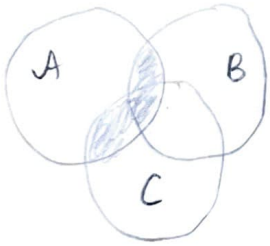
$D = A + B$



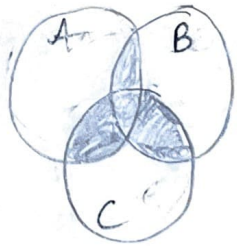
$D = \bar{A}\bar{B}$

$A(B + C) = (A + B)(A + C)$

(5)



$A(B + C) = AB + AC$



$A + (B \cdot C) = (A + B)(A + C)$