

7. Draw the truth table for the expression: <sup>(2)</sup>

i.  $\bar{A}(B + \bar{C})$     ii.  $A + B + (CD)$

iii.  $A\bar{B}C$     iv.  $\bar{A}B + \bar{C}D$

8. Using the requisite rules, show that

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

9.

AND

$$A \cdot A = A$$

$$A \cdot \bar{A} = 0$$

$$A \cdot 1 = A$$

$$A \cdot 0 = 0$$

OR

$$A + A = A$$

$$A + \bar{A} = 1$$

$$A + 1 = 1$$

$$A + 0 = A$$

$$(A')' = A$$

$$A + AB = A$$

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

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

(AB same as A.B or B.A)  
( $\bar{A}B$  same as  $\bar{A} \cdot B$  or  $B \cdot \bar{A}$ )

Exercise

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

solution

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

$$\downarrow \quad \downarrow$$

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

$$\downarrow \quad \swarrow$$

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

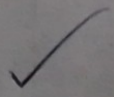
$$\downarrow$$

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

$$\downarrow$$

$$A + B \cdot C$$

$$= A + BC //$$



(using Rules And)

OR

Last column

Last column