

13.

$$A'B'CD + A'BCD + ABCD + AB'CD + ABC'D' + ABC'D + ABCD'$$

The above boolean algebra can be simplified to  $AB + CD$ .

The calculating process is presented in K-map format below.

$\begin{array}{c} \diagup \\ CD \\ \diagdown \\ AB \end{array}$	00	01	11	10
00			○	
01			○	
11	○	○	○	○
10			○	

$\begin{array}{c} \diagup \\ CD \\ \diagdown \\ AB \end{array}$	00	01	11	10
00			⌢	
01			⌢	
11	⌢	⌢	⌢	⌢
10			⌢	

X are Don't Care tiles.

○ are normal tiles, AKA 1.