

Now, let's define the truth values for p and q and construct the truth table for $(\sim p) \vee (\sim q)$:

p	q	$\sim p$	$\sim q$	$(\sim p) \vee (\sim q)$
T	T	T	F	F
T	F	F	T	T
F	T	T	F	T
F	F	T	T	T

By comparing the outputs of the two truth tables, we can see that $\sim(p \wedge q)$ and $(\sim p) \vee (\sim q)$ have the same truth values for all possible combinations of p and q . Therefore, we can conclude that $\sim(p \wedge q)$ and $(\sim p) \vee (\sim q)$ are logically equivalent.

B. Consider the set $G = \{1, 5, 7, 11, 13, 17\}$ under multiplication modulo 18 as a group. Construct the multiplication table for G and find the inverse of each element of G .

To construct the multiplication table for the group $G = \{1, 5, 7, 11, 13, 17\}$ under multiplication modulo 18, we need to perform the multiplication operation on each pair of elements in G . Let's denote the operation as $*$.

Multiplication Table for G :

$*$	1	5	7	11	13	17
1	1	5	7	11	13	17
5	5	7	11	13	17	1
7	7	11	13	17	1	5
11	11	13	17	1	5	7