

Simplify the following Boolean expressions as much as possible using DeMorgan's Law and other Boolean identities (e.g $!!A = A$, $A \ \&\& \ B \ \&\& \ (A \ || \ B) = A \ \&\& \ B$, etc.)

1. $!(num > 0 \ \&\& \ temp \leq 0)$

2. $!(sum < 5 \ || \ !(num > 0))$

3. $!(num > 0 \ \&\& \ num > 0)$

4. $!(!(num > 0) \ || \ temp \leq 0) \ \&\& \ num > 0$

5. $!(num > 0 \ || \ temp \leq 0) \ \&\& \ !(num > 0 \ \&\& \ temp \leq 0)$

6. $!(!(num > 0 \ || \ temp \leq 0) \ || \ !(num > 0) \ \&\& \ temp \leq 0)$

7. $!(!(num > 0) \ \&\& \ temp \leq 0) \ \&\& \ sum < 5$