

Satisfiability

For each of the following expressions, determine if it is satisfiable or not satisfiable. If it is satisfiable, determine if it is a tautology.

1. $(A \wedge B) \rightarrow A$
2. $(A \wedge B) \rightarrow \neg A$
3. $(A \wedge B) \leftrightarrow A$
4. $(A \rightarrow B) \wedge A \wedge \neg B$
5. $A \rightarrow \neg A$