

3. Show that $P \wedge (Q \vee R)$ and $(P \wedge Q) \vee (P \wedge R)$ have the same truth values.

4. Show that $P \rightarrow Q$ and $\neg P \vee Q$ have the same truth values.

5. Show that $\neg(P \rightarrow Q)$ is logically equivalent to $P \wedge \neg Q$.