

Claim: $\neg\neg A \wedge \neg B, A \rightarrow C \vdash C \wedge \neg B$

Proof:

Observe $\neg\neg A$ is A // Double Negative

Assume $A \wedge \neg B$, this implies $\neg B$ // \wedge Elimination

Suppose $A \rightarrow C$, we conclude C // Application

Since $\neg B$ and C are true, $C \wedge \neg B$ is true // \wedge Introduction