tab.1 Propositional Rules

Rules for \(-\)

\[
\frac{T \neg \varphi}{F \varphi} \quad \frac{F \neg \varphi}{T \varphi}
\]

Rules for \(\land\)

\[
\frac{T \varphi \land \psi}{T \varphi} \quad \frac{F \varphi \land \psi}{F \varphi}
\]

Rules for \(\lor\)

\[
\frac{T \varphi \lor \psi}{T \varphi} \quad \frac{F \varphi \lor \psi}{F \varphi}
\]

Rules for \(\rightarrow\)

\[
\frac{T \varphi \rightarrow \psi}{F \varphi} \quad \frac{F \varphi \rightarrow \psi}{T \varphi}
\]

The Cut Rule

\[
\frac{T \varphi}{F \varphi} \quad \text{Cut}
\]

The Cut rule is not applied "to" a previous signed formula; rather, it allows every branch in a tableau to be split in two, one branch containing \(T \varphi\), the other \(F \varphi\). It is not necessary—any set of signed formulas with a closed tableau has one not using Cut—but it allows us to combine tableaux in a convenient way.