

$$\frac{\neg(Q \rightarrow R), P \vdash \neg R}{\vdash \rightarrow}$$

$$\vdash \rightarrow$$

$$\frac{P \quad \neg(Q \rightarrow R) \vdash P \rightarrow \neg R}{\rightarrow \vdash}$$

$$\rightarrow \vdash$$

$$\frac{P \rightarrow \neg(Q \rightarrow R) \vdash P \rightarrow Q \quad P \rightarrow \neg(Q \rightarrow R) \vdash P \rightarrow \neg R}{\vdash \wedge}$$

$$\vdash \wedge$$

$$P \rightarrow \neg(Q \rightarrow R) \vdash (P \rightarrow Q) \wedge (P \rightarrow \neg R)$$