

$$\begin{array}{c}
 \begin{array}{c}
 \text{hyp} \\
 \hline
 G \wedge F, \\
 F \wedge G, \vdash F \wedge G \\
 E \\
 \hline
 \rightarrow \text{intro}
 \end{array}
 \qquad
 \begin{array}{c}
 \text{hyp} \qquad \qquad \text{hyp} \\
 G \wedge F, \qquad \qquad G \wedge F, \\
 F \wedge G, \vdash F \wedge G \quad F \wedge G, \vdash E \rightarrow F \wedge G \\
 E \rightarrow F \wedge G \qquad \qquad E \rightarrow F \wedge G \\
 \hline
 \wedge \text{ intro}
 \end{array}
 \end{array}$$

$$\begin{array}{c}
 \begin{array}{c}
 G \wedge F, \\
 F \wedge G, \vdash E \rightarrow F \wedge G \\
 F \wedge G
 \end{array}
 \qquad
 \begin{array}{c}
 G \wedge F, \\
 F \wedge G, \vdash (F \wedge G) \wedge (E \rightarrow F \wedge G) \\
 E \rightarrow F \wedge G
 \end{array}
 \end{array}$$

$$\begin{array}{c}
 \text{cut}
 \end{array}$$

$$\begin{array}{c}
 G \wedge F \vdash F \wedge G \qquad \qquad \begin{array}{c} G \wedge F, \\ F \wedge G, \vdash (F \wedge G) \wedge (E \rightarrow F \wedge G) \end{array} \\
 \hline
 \text{cut}
 \end{array}$$

$$G \wedge F \vdash (F \wedge G) \wedge (E \rightarrow F \wedge G)$$