

$$\begin{array}{c}
\frac{p, s; \overset{p}{\vdash} p, t; q, r}{p, s; \overset{p}{\vdash} (p \vee t); q, r} R\vee_+ \quad \frac{q; p, s \overset{q}{\vdash} q, r; \quad r; p, s \overset{r}{\vdash} q, r;}{(q \vee r); p, s \overset{(q \vee r)}{\vdash} q, r;} L\vee_+ \\
\hline
\frac{\quad}{((p \vee t) \rightarrow (q \vee r)); p, s \overset{(p \rightarrow (q \vee r))}{\vdash} q, r;} L\rightarrow_+ \\
\frac{\quad}{((p \vee t) \rightarrow (q \vee r)); p, s \overset{(p \rightarrow (q \vee r))}{\vdash} q, r;} L\rightarrow_+ \\
\frac{\quad}{((p \vee t) \rightarrow (q \vee r)); p, \neg(r), s \overset{(p \rightarrow (q \vee r))}{\vdash} q;} L\neg_- \\
\frac{\quad}{((p \vee t) \rightarrow (q \vee r)); \neg(q), p, \neg(r), s \overset{(p \rightarrow (q \vee r))}{\vdash} ;} L\wedge_- \\
\frac{\quad}{((p \vee t) \rightarrow (q \vee r)); (\neg(r) \wedge s), \neg(q), p \overset{(p \rightarrow (q \vee r))}{\vdash} ;} R\neg_+ \\
\frac{\quad}{((p \vee t) \rightarrow (q \vee r)); (\neg(r) \wedge s), \neg(q) \overset{(p \rightarrow (q \vee r))}{\vdash} \neg(p);} R\rightarrow_+ \\
\frac{\quad}{((p \vee t) \rightarrow (q \vee r)); (\neg(r) \wedge s) \overset{(p \rightarrow (q \vee r))}{\vdash} (\neg(q) \rightarrow \neg(p));} R\rightarrow_+ \\
\frac{\quad}{((p \vee t) \rightarrow (q \vee r)); \overset{(p \rightarrow (q \vee r))}{\vdash} ((\neg(r) \wedge s) \rightarrow (\neg(q) \rightarrow \neg(p)))} R\rightarrow_+
\end{array}$$