

$$1.) \quad \begin{array}{l} 1 \quad p \rightarrow q \\ 2 \quad q \vee r \rightarrow s \end{array}$$

$$\vdash p \rightarrow s \vee t$$

$$2.) \quad \begin{array}{l} 1 \quad p \rightarrow q \\ 2 \quad \neg q \\ 3 \quad r \rightarrow p \end{array}$$

$$\vdash \neg r$$

$$3.) \quad \begin{array}{l} 1. \quad p \vee (q \wedge s) \\ 2. \quad p \rightarrow r \\ 3. \quad q \rightarrow r \end{array}$$

$$\vdash r$$

$$4.) \quad \begin{array}{l} 1. \quad p \wedge q \\ 2 \quad p \rightarrow r \\ 3. \quad q \rightarrow s \end{array}$$

$$\vdash r \wedge s$$

$$5.) \quad \begin{array}{l} 1. \quad p \rightarrow q \\ 2. \quad (q \vee r) \rightarrow t \end{array}$$

$$\vdash p \rightarrow t$$