

Phil 225 -- Symbolic Logic
HW 7
Due 3/30/12

1) Derive the last sentence from the given ones. You may use any of the rules on the handout of rules.

$$\begin{array}{l} \text{(a)} \quad P \leftrightarrow (Q \rightarrow R) \\ \quad \quad \neg(Q \vee P) \\ \hline R \end{array}$$

$$\begin{array}{l} \text{b)} \quad \neg P \rightarrow (Q \vee R) \\ \quad \quad (S \vee Q) \rightarrow \neg R \\ \quad \quad \neg(S \rightarrow Q) \\ \hline P \end{array}$$

$$\begin{array}{l} \text{(c)} \quad (Q \rightarrow R) \rightarrow \neg P \\ \quad \quad S \vee R \\ \quad \quad (U \rightarrow \neg P) \rightarrow \neg Q \\ \quad \quad T \rightarrow Q \\ \hline \neg T \vee S \end{array}$$

$$\begin{array}{l} \text{d)} \quad P \rightarrow (\neg Q \wedge R) \\ \quad \quad S \rightarrow (Q \vee \neg R) \\ \quad \quad \neg P \rightarrow R \\ \hline \neg Q \rightarrow \neg S \end{array}$$

2) Chapter 7, ex. 1, parts b,e,f,g,h,j