

1.6 Tautology Cont.

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$$\underline{p \Rightarrow T} ; \underline{q \Rightarrow T} ; \underline{r \Rightarrow F}$$

$$\textcircled{1} p \wedge q =$$

$$T \wedge T = \underline{\underline{T}}$$

$$\textcircled{2} r \rightarrow (p \vee q) =$$

$$F \rightarrow (T \vee T)$$

$$F \rightarrow (T) = \underline{\underline{T}}$$

$P \Rightarrow T$; $q \Rightarrow T$; $r \Rightarrow F$

③ $(r \vee \sim r) \rightarrow (p \wedge \sim q)$

1pt $(F \vee \sim F) \rightarrow (T \wedge \sim T)$

$(F \vee T)$ \rightarrow $(T \wedge F)$

(T) \rightarrow (F) = F

$$\textcircled{4} \quad [r \wedge (p \rightarrow \sim r)] \rightarrow p$$

$$[F \wedge (T \rightarrow \sim F)] \rightarrow T$$

$$[F \wedge (T \rightarrow T)] \rightarrow T$$

$$[F \wedge (T)] \rightarrow T$$

$$[F] \rightarrow T = \underline{\underline{T}}$$

① Sub. Correctly

② Negation if inside () or []

③ [] or ()

④ Show each Step!

O.T.L.

Exp:

① pg 22: 11-16 (all)