Philosophy 201: Precept 4

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Exercise 1. Consider the reconstrual that takes p to $\sim p \to q$, and that takes q to $\sim p$. What then is the translation, under this reconstrual, of $\sim (p \vee q)$?

Exercise 2. Which of the following formulas is a substitution instance of $p \to (q \to p)$? For those that are, show how to reconstrue.
1. $p \to (p \to p)$
2. $(q \vee s) \to (p \to (r \vee r))$
3. $(s \wedge p) \to (s \to (s \wedge p))$

Exercise 3. Which of the following formulas is a substitution instance of $\sim p \wedge (r \to \sim\sim q)$? For those that are, show how to reconstrue.
1. $\sim (p \to q) \wedge (\sim p \to s)$
2. $s \wedge (r \to \sim\sim p)$
3. $\sim (p \vee q) \wedge (\sim\sim s \to \sim\sim q)$
4. $\sim\sim s \wedge (\sim\sim s \to \sim\sim s)$

Exercise 4. Prove EFQ, $p, \sim p \vdash q$, and disjunctive syllogism, $p \vee q, \sim p \vdash q$, using RA.

Exercise 5. Fill in the following truth table:

p	q	$p \to q$	$\sim p \vee q$
T	T		
T	F		
F	T		
F	F		

Exercise 6. Write a sentence ϕ that has the following truth table:

p	q	ϕ
T	T	F
T	F	F
F	T	T
F	F	F

Exercise 7. Prove $\vdash p \vee \sim p$ using RA and $p \vdash (p \wedge q) \vee (p \wedge \sim q)$ using SI(S).