Logic I
Fall 2009
Quiz 3
10/15/2009

True or false:

1. SD+ is stronger than SD.

2. If $\{P\} \vdash Q$ in SD, then $\emptyset \vdash P \supset Q$ in SD.

3. If P is true and Q is true, then $\{P\} \vdash Q$ in SD

4. If $\{P\} \nvdash Q$ in SD, then $\{P\} \vdash \sim Q$ in SD.

5. If P is true and Q is true, then $\{P \vDash Q\}$

6. If P is true and Q is false, then $\{P \nvDash Q\}$

7. If $\Gamma \cup \{P\}$ is inconsistent, then for some $Q \in \Gamma$, $\{P, Q\}$ is inconsistent.

8. Use appropriate definitions in terms of TVAs to prove the following:
   If $\Gamma_1 \vDash P$ and $\Gamma_2 \vDash Q$, then $\Gamma_1 \cup \Gamma_2 \vDash P \& Q$.

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