

CIS 623 Assignment 2 Due Week 3 Live

For each of the following set of formulas, show if there is an entailment relation from formulas in a to the formulas in b. Give a formal proof if the entailment relation holds from the formulas in a to b.

1. a. $(p \wedge q) \vee (p \wedge r)$
b. $p \wedge (q \vee r)$
2. a. Nothing
b. $((p \rightarrow q) \wedge (q \rightarrow r)) \rightarrow (p \rightarrow r)$
3. a. $p \rightarrow q$
b. $\neg q \rightarrow \neg p$
4. a. $\neg p \vee q$
b. $p \rightarrow q$
5. a. $p \rightarrow q$
b. $\neg p \vee q$
6. a. $q \rightarrow r$
b. $(p \rightarrow q) \rightarrow (p \rightarrow r)$
7. a. Nothing
b. $(p \rightarrow q) \vee (q \rightarrow r)$