Philosophy 142: Intuitionist Logic Exercises

November 30, 2008

1. Show the following:

(a) $\neg p \models p \sqsupset q$

(b) $p \sqsupset q, q \sqsupset s \models p \sqsupset s$

(c) $\models (p \wedge \neg p) \sqsupset q$

(d) $\Box q \models p \sqsupset q$

2. Show the following:

(a) $\vdash_I (p \wedge (\neg p \vee q)) \sqsupset q$

(b) $\neg p \vee \neg q \vdash_I \neg (p \wedge q)$

(c) $\vdash_I \neg\neg (p \vee \neg p)$

3. Find counter-models for the following invalidities:

(a) $\not\models_I p \vee \neg p$

(b) $\neg p \sqsupset \neg q \not\models_I q \sqsupset p$

(c) $p \sqsupset (q \vee r) \not\models_I (p \sqsupset q) \vee (p \sqsupset r)$