

## Homework 1, due Friday 8 February, before 15.00

Some of the schemes below are intuitionistically valid. Give informal proofs of the intuitionistically valid schemes and explain shortly why you think the others are not valid.

1.  $\neg\neg(\phi \wedge \psi) \leftrightarrow \neg\neg\phi \wedge \neg\neg\psi$  [4pts]
2.  $(\phi \rightarrow \chi) \wedge (\psi \rightarrow \chi) \leftrightarrow (\phi \vee \psi \rightarrow \chi)$  [4pts]
3.  $\phi \vee \psi \rightarrow \neg(\neg\phi \wedge \neg\psi)$  [2pts]
4.  $\neg(\neg\phi \wedge \neg\psi) \rightarrow \phi \vee \psi$  [2pts]
5.  $\neg(\neg\phi \vee \neg\psi) \rightarrow \phi \wedge \psi$  [2pts]
6.  $(\neg\phi \rightarrow \phi) \leftrightarrow \neg\neg\phi$  [4pts]