

Logic pset 5

Resources: HLW [Ch 3](#) and [Lecture 7](#)

Use \vee -elimination (and possibly the previous rules) to prove the following sequents. Do *not* use reductio ad absurdum for any of these proofs.

1. $P \vee (Q \wedge R) \vdash P \vee Q$
2. $P \wedge (Q \vee R) \vdash (P \wedge Q) \vee (P \wedge R)$
3. $P \vee Q, \neg P \vdash Q$
4. $(P \rightarrow R) \wedge (Q \rightarrow R) \vdash (P \vee Q) \rightarrow R$