

Language and Logic

Natural Deduction in Propositional Logic
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1. A simple problem

$P, P \rightarrow Q : P \ \& \ (Q \vee R)$

2. An absurd problem

$P \rightarrow Q, \sim Q : \sim P$

3. Suppose the contrary

$: \sim(P \ \& \ \sim P)$

4. Implications

$P \rightarrow (Q \rightarrow R) : Q \rightarrow (P \rightarrow R)$

5. A tough problem

$A \vee B, A \rightarrow C, \sim D \rightarrow \sim B : C \vee D$