

Outils Logiques - L1 MIASHS - TD 2

On utilisera la notation de Fitch.

Exercice 1. *Montrer les dérivations suivantes en Dédution Naturelle:*

1. $P \wedge Q \vdash_{NK} P$
2. $P \wedge (Q \wedge R) \vdash_{NK} (P \wedge Q) \wedge R$
3. $\{P \Rightarrow Q, Q \Rightarrow R, Q\} \vdash_{NK} R$
4. $\{P \Rightarrow Q, Q \Rightarrow R, R \Rightarrow S\} \vdash_{NK} P \Rightarrow S$
5. $\vdash_{NK} (P \wedge Q) \Rightarrow P$
6. $\{P \Rightarrow Q, S \Rightarrow R\} \vdash_{NK} (P \wedge S) \Rightarrow (Q \wedge R)$
7. $\vdash_{NK} P \Rightarrow (Q \Rightarrow P)$
8. $\vdash_{NK} P \Rightarrow ((P \Rightarrow Q) \Rightarrow ((Q \Rightarrow M) \Rightarrow M))$
9. $\vdash_{NK} P \Rightarrow \neg\neg P$
10. $\vdash_{NK} ((P \Rightarrow Q) \wedge (P \Rightarrow \neg Q)) \Rightarrow \neg P$
11. $\{\neg P \Rightarrow Q, Q \Rightarrow R, \neg P \Rightarrow \neg R\} \vdash_{NK} P$