

Lògica 2015–2016, (Code 360961)

Some exercises with deductions

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Here are 6 exercises to practice with the formal proof systems. So below, you will have to provide proofs *within* the formal proof system (using the rules we have dealt with so far (E1, and the rules for \wedge and \rightarrow)). Enjoy your weekend

1. Give a proof of

$$A \rightarrow B, A \rightarrow C \quad A \rightarrow B \wedge C$$

2. Give a proof of

$$((p \rightarrow q) \rightarrow p) \rightarrow p$$

3. Give a proof of

$$A \rightarrow B, A \quad B$$

4. Give a proof of

$$A \wedge B \rightarrow A$$

5. Give a proof of

$$A \wedge B \rightarrow B$$

6. Give a proof of

$$A \quad B \rightarrow A$$