

## Rules of Inference for FOL

### $\forall$ Elimination

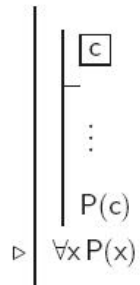
Universal Elimination ( $\forall$  Elim):

$$\triangleright \left| \begin{array}{l} \forall x S(x) \\ \vdots \\ S(c) \end{array} \right.$$

- x: any variable,
- c: any individual constant, whether used or not

## $\forall$ Introduction

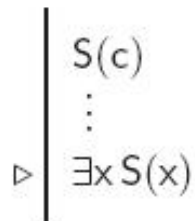
Universal Introduction ( $\forall$  Intro):



- $c$ : does not occur in the subproof where it is introduced.

## $\exists$ Introduction

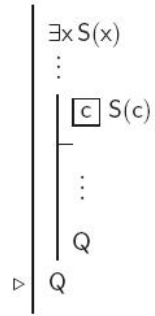
Existential Introduction ( $\exists$  Intro):



- $x$ : any variable
- $c$ : individual constant

## $\exists$ Elimination

Existential Elimination ( $\exists$  Elim):



- $c$ : does not occur outside of the subproof where it is introduced.