

Inference at \* 1 1 1 1 1  
of proof for Lemma nat\_ind\_tp:

1.  $P : \mathbb{N} \rightarrow \mathbb{P}\{k\}$
  2.  $P(0)$
  3.  $\forall i:\mathbb{N}^+. P(i - 1) \Rightarrow P(i)$
  4.  $i : \mathbb{Z}$
  5.  $i < 0$
  6.  $((i+1) \geq 0) \Rightarrow P(i+1)$
  7.  $i \geq 0$
- $\vdash P(i)$   
by Arith

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