Inference at $*$ 1 1 1 1 1
 of proof for Lemma nat_ind_tp:

1. $P : \mathbb{N} \to \mathbb{P}\{\mathrm{k}\}$
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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http://www.nuprl.org/FDLcontent/p0_942988_/p121_94355_{nat_ind_tp}1_1_1_1_1.html