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

1. $a : \mathbb{Z}$
2. $b : \mathbb{Z}$
3. $n : \mathbb{Z}$
4. $a = b$

$\vdash$ $a{+}n = b{+}n$
  by (Auto_aux (first_nat 1:n) ((first_nat 2:n),(first_nat 3:n)) (first_tok :t) inil_term)

  .