Inference at $*$
of proof for Lemma eq_int_eq_true_intro:

$\vdash \forall i, j{:}\mathbb{Z}.\ (i = j) \Rightarrow ((i =_0 j) \sim \mathrm{tt})$
by (Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n)) (first_tok :t) inil_term)

1:

1. $i : \mathbb{Z}$
2. $j : \mathbb{Z}$
3. $i = j$

$\vdash (i =_0 j) = \mathrm{tt}$

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