Inference at $*$ 1 1 0
of proof for Lemma add_cancel_in_lt:

. . . . .assertion. . . . . NILNIL

1. $a : \mathbb{Z}$
2. $b : \mathbb{Z}$
3. $n : \mathbb{Z}$
4. $(a+n) < (b+n)$

$\vdash$ $(a+n+(-n)) < (b+n+(-n))$
by PERMUTE{1:n, 2:n, 3:n, 2:n, 4:n, 5:n}

1: . . . . .wf. . . . . NILNIL

$\vdash$ $a+n \in \mathbb{Z}$

2: . . . . .wf. . . . . NILNIL

$\vdash$ $(-n) \in \mathbb{Z}$

3: . . . . .wf. . . . . NILNIL

$\vdash$ $b+n \in \mathbb{Z}$

4:

$\vdash$ $(a+n) < (b+n)$

5:

$\vdash$ $(-n) \leq (-n)$

.