Inference at $*$ 2 2 1 2 1 1 1
of proof for Lemma p-fun-exp-add-sq:

1. $A$ : Type
2. $f$ : $A \rightarrow (A$ + Top)
3. $x$ : $A$
4. $m$ : $\mathbb{Z}$
5. $0 < m$
6. $\forall n$:$\mathbb{N}$. ($\uparrow$can-apply($f$^$m$ - 1;$x$)) $\Rightarrow$ (($f$^$n$+($m$ - 1)($x$)) $\sim$ ($f$^$n$(do-apply($f$^$m$ - 1;$x$))))
7. $n$ : $\mathbb{N}$
8. $\uparrow$can-apply($f$^$m$;$x$)
9. $\neg(n = 0)$
10. $\neg(n+m = 0)$
11. $\neg(n = 0)$
12. $\neg(m = 0)$
13. $\uparrow$can-apply($f$^$m$ - 1;$x$)
14. $x_1$ : $A$
15. do-apply($f$^$m$ - 1;$x$) = $x_1$

$\vdash\uparrow$can-apply($f$;$x_1$)
by (NthHypSq 8)
CollapseTHEN ((EqCD)
CollapseTHEN ((Auto·)
CollapseTHEN ((Unfold ‘
can-apply‘ ( 0)·)
CollapseTHEN ((EqCD)
CollapseTHEN (Auto·)·)·)·)·)·

1: .....subterm..... T:t1:n

$\vdash$ $f(x_1)$ = $f$^$m(x)$

.

http://www.nuprl.org/FDLcontent/p0_963683_/p35_1130295_{p-fun-exp-add-sq}2_2_1_2_1_1_1.html