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

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

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

$\vdash f(x_1)$ = f^$m(x)$
by ((Unfold ‘p-fun-exp‘ (0)·)
CollapseTHEN ((RecUnfold ‘primrec‘ 0)
CollapseTHEN ((
((if (0) =0 then SplitOnConclITE else SplitOnHypITE (0))·)
CollapseTHENA (Auto·)·)

CollapseTHEN (((Try (Trivial))·)
CollapseTHEN ((Reduce 0)
CollapseTHEN (
Fold ‘p-fun-exp‘ 0)·)·)·)·)·)
CollapseTHEN ((((if (first_bool F:b
) then HypSubst’ else RevHypSubst’) (-2)(0))·)
CollapseTHENA (Auto·)·)·

1:

16. $\neg(m = 0)$
$\vdash f$(do-apply(f^m - 1;x)) = f o f^m - 1 (x)

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