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

1. A : Type
2. f : $A \to (A + \text{Top})$
3. x : A
4. m : $\mathbb{Z}$
5. $0 < m$
6. $\forall n{:}\mathbb{N}$. (↑can-apply($f\hat{}m$ - 1;x)) ⇒ (($f\hat{}n$+(m - 1)(x)) ~ ($f\hat{}n$(do-apply($f\hat{}m$ - 1;x))))
7. n : $\mathbb{N}$
8. ↑can-apply($f\hat{}m$;x)
9. $\neg(n = 0)$
10. $\neg(n+m = 0)$
11. $\neg(n = 0)$
12. $\neg(m = 0)$

⊢(f o $f\hat{}n$ (do-apply($f\hat{}m$ - 1;x))) ~ (f o $f\hat{}n$ - 1 (do-apply(f o $f\hat{}m$ - 1 ;x)))
 by (RW (AddrC [2;2] (UnfoldsC "p-compose")) 0)
 CollapseTHEN ((RepUR "do-apply" (0
)·)
 CollapseTHEN ((Fold 'do-apply' 0)
 CollapseTHEN (((if (0
) =0 then SplitOnConclITE else SplitOnHypITE (0))·)
 CollapseTHENA (Auto·)·)·)·

 1: .....truecase..... NILNIL

  13. ↑can-apply($f\hat{}m$ - 1;x)
  ⊢ (f o $f\hat{}n$ (do-apply($f\hat{}m$ - 1;x))) ~ (f o $f\hat{}n$ - 1 (outl(f(do-apply($f\hat{}m$ - 1;x)))))
 2: .....falsecase..... NILNIL

  13. ¬(↑can-apply($f\hat{}m$ - 1;x))
  ⊢ (f o $f\hat{}n$ (do-apply($f\hat{}m$ - 1;x))) ~ (f o $f\hat{}n$ - 1 (outl($f\hat{}m$ - 1(x))))
 .
