

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

...truecase.... NILNIL

1. $A : \text{Type}$
 2. $f : A \rightarrow (A + \text{Top})$
 3. $x : A$
 4. $m : \mathbb{Z}$
 5. $0 < m$
 6. $\forall n : \mathbb{N}. (\uparrow \text{can-apply}(f^{\wedge} m - 1; x)) \Rightarrow ((f^{\wedge} n + (m - 1)(x)) \sim (f^{\wedge} n(\text{do-apply}(f^{\wedge} m - 1; x))))$
 7. $n : \mathbb{N}$
 8. $\uparrow \text{can-apply}(f^{\wedge} m; x)$
 9. $\neg(n = 0)$
 10. $\neg(n + m = 0)$
 11. $\neg(n = 0)$
 12. $\neg(m = 0)$
 13. $\uparrow \text{can-apply}(f^{\wedge} m - 1; x)$
- $\vdash (f \circ f^{\wedge} n (\text{do-apply}(f^{\wedge} m - 1; x))) \sim (f \circ f^{\wedge} n - 1 (\text{outl}(f(\text{do-apply}(f^{\wedge} m - 1; x))))$
by ((GenConclAtAddr [1;2])
CollapseTHENA (Auto··)
CollapseTHEN (RenameVar 'x1' (-2)
·).

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14. $x_1 : A$
 15. $\text{do-apply}(f^{\wedge} m - 1; x) = x_1$
- $\vdash (f \circ f^{\wedge} n (x_1)) \sim (f \circ f^{\wedge} n - 1 (\text{outl}(f(x_1))))$
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