Inference at $*$ 1
of proof for Lemma fun_exp_add-sq:

1. n : $\mathbb{Z}$
2. $0 < n$
3. $\forall m$:$\mathbb{N}$, f, x:Top.
   (primrec((n - 1)+m;$\lambda x.x$;$\lambda i,g.$ f o g)(x))
   ~
   (primrec(n - 1;$\lambda x.x$;$\lambda i,g.$ f o g)(primrec(m;$\lambda x.x$;$\lambda i,g.$ f o g)(x)))
4. m : $\mathbb{N}$
5. f : Top
6. x : Top

⊢(primrec(n+m;$\lambda x.x$;$\lambda i,g.$ f o g)(x))
~
(primrec(n;$\lambda x.x$;$\lambda i,g.$ f o g)(primrec(m;$\lambda x.x$;$\lambda i,g.$ f o g)(x)))
by ((((RW (AddrC [2;1] (RecUnfoldC ‘primrec‘)) 0)
CollapseTHEN ((((((if (0
) =0 then SplitOnConclITE else SplitOnHypITE (0))·)
CollapseTHENA (Auto·))·)

CollapseTHEN ((Try ((Complete (Auto’))·))·))·))·)
CollapseTHEN (((
RW (AddrC [1] (RecUnfoldC ‘primrec‘)) 0)
CollapseTHEN ((((((if (0
) =0 then SplitOnConclITE else SplitOnHypITE (0))·)
CollapseTHENA (Auto·))·)

CollapseTHEN ((((Try ((Complete (Auto’))·))·)
CollapseTHEN (((Reduce 0)

CollapseTHEN (((EqCD)
CollapseTHEN ((Try (Trivial))·))·))·))·))·))·))·))·

1:

7. $\neg(n = 0)$
8. $\neg(n+m = 0)$

⊢ (primrec((n+m) - 1;$\lambda x.x$;$\lambda i,g.$ f o g)(x))
~
(primrec(n - 1;$\lambda x.x$;$\lambda i,g.$ f o g)(primrec(m;$\lambda x.x$;$\lambda i,g.$ f o g)(x)))

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