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hsnd_def  THM

⊢  ∀'a,'b:S.
|  all
|  (λp:hprod('a; 'b). equal
|                     (snd(p)
|                     ,select
|                      (λy:'b. exists
|                              (λx:'a. equal
|                                      (mk_pair(x,y)
|                                      ,rep_prod(p))))))
| by HN THEN StrongAuto
|
1. 'a : S
2. 'b : S
3. x : hprod('a; 'b)
⊢  2of(x) = (@b y:'b. (∃b x@0:'a. ((mk_pair(x@0,y)) =b (rep_prod(x)))))
| by Unab [‘bchoose‘] THEN ChooseDC THEN Simp THEN StrongAuto
|
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| 1. 'a : S
| 2. 'b : S
| 3. x : hprod('a; 'b)
| 4. y : 'b
| 5. ∃x@1:'a. mk_pair(x@1,y) = rep_prod(x)
| ⊢  2of(x) = y
| | by Last Analyze THEN StrongAuto THEN Unab [‘hrep_prod‘;‘hmk_pair‘]
| |    THEN
| |    Simp
| |    THEN
| |    StrongAuto
| |
| 1. 'a : S
| 2. 'b : S
| 3. x : hprod('a; 'b)
| 4. y : 'b
| 5. x@1 : 'a
| 6. (λa:'a. λb:'b. (a =b x@1)∧2(b =b y))
|    =
|    (λa:'a. λb:'b. (a =b 1of(x))∧2(b =b 2of(x)))
| ⊢  2of(x) = y
|   by ((Last (EquandMap (λf.f(x@1,y)) 𝔹)) THEN (Analyze 3))
|      THEN
|      Simp
|
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. 1. 'a : S
. 2. 'b : S
. 3. x : hprod('a; 'b)
. ⊢  ∃y:'b, x@1:'a. mk_pair(x@1,y) = rep_prod(x)
.   by ((DTerm 2of(x) 0) THEN (DTerm 1of(x) 0)
.       THEN
.       (Unab [‘hrep_prod‘;‘hmk_pair‘]))
.      THEN
.      Simp
```

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.       THEN
.       StrongAuto
END
```