```
sum-deq_wf  THM

⊢  ∀A,B:Type, a:EqDecider(A), b:EqDecider(B).
|  sum-deq(A;B;a;b) ∈ (∀p,q:A+B. p = q ⟺ sumdeq(a;b)(p,q))
| by Auto
|    THEN
|    Inst
|    Thm* ∀A,B:Type{i}, a:EqDecider(A), b:EqDecider(B).
|         sum-deq-aux{\\\\v:l,i:l}(A;B;a;b)
|         ∈ (∀p,q:A+B. p = q ⟺ sumdeq(a;b)(p,q))
|    {sum_DASH_deq_DASH_aux_wf}
|    [A;B;a;b]
|    THEN
|    NthHypSq -1
|    THEN
|    Analyze
|    THEN
|    Try Trivial
|
1. A : Type
2. B : Type
3. a : EqDecider(A)
4. b : EqDecider(B)
5. sum-deq-aux{\\\\v:l,i:l}(A;B;a;b)
|  ∈ (∀p,q:A+B. p = q ⟺ sumdeq(a;b)(p,q))
⊢  sum-deq(A;B;a;b) ~ sum-deq-aux{\\\\v:l,i:l}(A;B;a;b)
| by Unfolds [‘sum-deq-aux‘] 0
|
1. A : Type
2. B : Type
3. a : EqDecider(A)
4. b : EqDecider(B)
5. sum-deq-aux{\\\\v:l,i:l}(A;B;a;b)
   ∈ (∀p,q:A+B. p = q ⟺ sumdeq(a;b)(p,q))
⊢  sum-deq(A;B;a;b) ~ (ext{sumdeq_DASH_property}{i:l}(A,B,a,b))
  by RW (SweepDnC AnyExtractC) 0 THEN Unfold ‘sum-deq‘ 0 THEN Trivial
END
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