```
replace_fn_values_wf  THM

⊢  ∀A,X:Type, P:(A→𝔹), y:A, f:(X→A).
|  (Replace values x s.t. P(x) by y in f) ∈ X→A
| by Compute
|       ⌈Replace values x s.t. P(x) by y in f⌉
|       *⇒
|       λi.if P(f(i))→ y else f(i) fi
|     THEN
|     UnivCD
|
1. A : Type
2. X : Type
3. P : A→𝔹
4. y : A
5. f : X→A
⊢  (λi.if P(f(i))→ y else f(i) fi) ∈ X→A  by Analyze
|
6. i : X
⊢  if P(f(i))→ y else f(i) fi ∈ A  by SplitOnConclITE
|
|\
| .....truecase .....
| 7. P(f(i))
| ⊢  y ∈ A  by Trivial
|
.\
. .....falsecase .....
. 7. ¬P(f(i))
. ⊢  f(i) ∈ A  by Auto
END
```