```
left_inv_of_surj_is_right_inv  THM

⊢  ∀g:(B→A).
|  Surj(A; B; f) ⇒ (∀x:A. g(f(x)) = x) ⇒ (∀y:B. f(g(y)) = y)
| by Auto
|
1. A : Type
2. B : Type
3. f : A→B
4. g : B→A
5. Surj(A; B; f)
6. ∀x:A. g(f(x)) = x
7. y : B
⊢  f(g(y)) = y  by Witness5: y THEN Analyze-1
|
8. a : A
9. f(a) = y
⊢  f(g(y)) = y  by Rewrite by Hyp:9
|
⊢  f(g(f(a))) = f(a)  by Rewrite by Hyp:6
END
```