```
fun_exp_add1  THM

⊢  ∀T:Type, f:(T→T), n:ℕ, x:T. f(f^n(x)) = f^n+1(x)
| by Auto THEN Subst f^n+1 = f o f^n 0 THEN Reduce 0 THEN Auto
|
.....equality .....
1. T : Type
2. f : T→T
3. n : ℕ
4. T
⊢  f^n+1 = f o f^n  by InstLemma ‘fun_exp_add‘ [T;1;n;f] THENA Auto
|
1. T : Type
2. f : T→T
3. n : ℕ
4. T
5. f^1+n = f^1 o f^n
⊢  f^n+1 = f o f^n
| by Subst’ n+1 = 1+n 0 THEN Auto
THEN HypSubst (-1) 0 THEN Auto
|
1. T : Type
2. f : T→T
3. n : ℕ
4. T
5. f^1+n = f^1 o f^n
⊢  f^1 o f^n = f o f^n  by Ext THEN Reduce 0 THEN Auto
END
```