```
kleene_tail  THM

⊢  ∀f:{f:(ℕ→𝔹)| ∃x:ℕ. f(x) }.
|  ¬f(0) ⇒ (λx.f(1+x)) ∈ {f:(ℕ→𝔹)| ∃x:ℕ. f(x) }  by Auto
|
1. f : {f:(ℕ→𝔹)| ∃x:ℕ. f(x) }
2. ¬f(0)
⊢  (λx.f(1+x)) ∈ {f:(ℕ→𝔹)| ∃x:ℕ. f(x) }
| by 2 Times Analyze-2 THEN Analyze THEN Reduce Concl
|
1. f : ℕ→𝔹
2. x : ℕ
3. f(x)
4. ¬f(0)
⊢  ∃x:ℕ. f(1+x)  by Witness: x-1 THEN (ArithSimp 0)
|
.....wf .....
⊢  x-1 ∈ ℕ  by ¬x = 0 ∈ ℕ  Asserted
|
.....assertion .....
⊢  ¬x = 0 ∈ ℕ  by SimilarTo: ¬f(0)
|
4. x = 0 ∈ ℕ
⊢  f(0)  by Rewrite by x = 0 ∈ ℕ
END
```