```
split_factor1_wf  THM

⊢  ∀k:{2...}, g:({2..k⁻}→ℕ), x:{2..k⁻}.
|  x·x<k ⇒ split_factor1(g; x) ∈ {2..k⁻}→ℕ  by Autoℕ
|
1. k : {2...}
2. g : {2..k⁻}→ℕ
3. x : {2..k⁻}
4. x·x<k
⊢  split_factor1(g; x) ∈ {2..k⁻}→ℕ
| by Inst: Thm*  ∀i,j:{2...}. i<i·j & j<i·j    {factors_smaller}
|    Using:[x | x] ...wℕ
|
5. x<x·x & x<x·x
⊢  split_factor1(g; x) ∈ {2..k⁻}→ℕ
| by Def THEN New:u FunExtensionality
|
6. u : {2..k⁻}
⊢  if u=₂x→ g(x)+g(x·x)+g(x·x) ; u=₂x·x→ 0 else g(u) fi ∈ ℕ
  by SplitOnConclITEs ...ℕ
END
```