```
factors_smaller2  THM

⊢  ∀k:ℕ⁺, i:{2..k⁻}, j:ℤ. i·j = k ⇒ 2 ≤ j < k & i<k  by UnivCD
|
1. k : ℕ⁺
2. i : {2..k⁻}
3. j : ℤ
4. i·j = k
⊢  2 ≤ j < k & i<k  by 2≤j  Asserted
|
|\
| .....assertion .....
| ⊢  2≤j
| | by FwdThru:
| |    Thm*  ∀a,b:ℤ. a·b>0 ⟺ a>0 & b>0 ∨ a<0 & b<0
| |    {pos_mul_arg_bounds}
| |    on [ 0<i·j ]
| |    THEN
| |    Analyze-1
| |
| 5. i>0
| 6. j>0
| ⊢  2≤j  by ¬j = 1  Asserted
| |
| .....assertion .....
| ⊢  ¬j = 1  by SimilarTo: ¬i = k ∈ ℤ
| |
| 7. j = 1
| ⊢  i = k  by Rewrite4 by j = 1
|
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. 5. 2≤j
. ⊢  j<k
.   by Inst: Thm*  ∀i,j:{2...}. i<i·j & j<i·j    {factors_smaller}
.      Using:[i | j]
END
```