```
rem_fun_sat_rem_nrel  THM

⊢  ∀a:ℕ, n:ℕ+. Rem(a;n;a rem n)  by Unfold ‘rem_nrel‘ 0 THEN UnivCD
|
1. a : ℕ
2. n : ℕ+
⊢  ∃q:ℕ. Div(a;n;q) & q·n+(a rem n) = a  by DTerm (a ÷ n) 0
|
⊢  Div(a;n;a ÷ n) & (a ÷ n)·n+(a rem n) = a  by Analyze 0
|
|\
| ⊢  Div(a;n;a ÷ n)
|   by BackThru
|      Thm* ∀a:ℕ, n:ℕ+. Div(a;n;a ÷ n)    {div_fun_sat_div_nrel}
|
.\
. ⊢  (a ÷ n)·n+(a rem n) = a
.   by InvertRel 0
.      THEN
.      BackThru
.      Thm* ∀a:ℤ, n:ℤ-0. a = (a ÷ n)·n+(a rem n)    {div_rem_sum}
END
```