```
rem_fun_sat_rem_nrel  THM

⊢  ∀a:ℕ, n:ℕ+. Rem(a;n;a rem n)  by Def of Rem(<nat>;<nat>;<nat>)
|
⊢  ∀a:ℕ, n:ℕ+. ∃q:ℕ. Div(a;n;q) & q·n+(a rem n) = a
| by SimilarTo:
|    Thm* ∀a:ℕ, n:ℕ+. ∃q:ℕ. Div(a;n;q) & (a ÷ n) = q    {div_elim}
|
1. a : ℕ
2. n : ℕ+
3. q : ℕ
4. (a ÷ n) = q
⊢  q·n+(a rem n) = a  by ElaborateDivision Auto 0
|
5. a = (a ÷ n)·n+(a rem n)
6. (a rem n) ∈ ℕn
⊢  q·n+(a rem n) = a  by Rewrite by Hyp:4
END
```