```
div_rec_case  THM

⊢  ∀a:ℕ, n:ℕ+. a≥n ⇒ (a ÷ n) = ((a-n) ÷ n)+1
| by Auto THEN ElaborateDivision Auto 0
|
1. a : ℕ
2. n : ℕ+
3. a≥n
4. a = (a ÷ n)·n+(a rem n)
5. a-n = ((a-n) ÷ n)·n+((a-n) rem n)
6. (a rem n) ∈ ℕn
7. ((a-n) rem n) ∈ ℕn
⊢  (a ÷ n) = ((a-n) ÷ n)+1
| by FwdThru:
|    Thm* ∀k:ℕ+, r1,r2:ℕk, q1,q2:ℤ.
|         q1·k+r1 = q2·k+r2 ⇒ q1 = q2 & r1 = r2
|    {division1_sfa}
|    on [ ((a ÷ n)-1)·n+(a rem n) = ((a-n) ÷ n)·n+((a-n) rem n) ]
|
8. (a ÷ n)-1 = ((a-n) ÷ n) & (a rem n) = ((a-n) rem n)
⊢  (a ÷ n) = ((a-n) ÷ n)+1  by Auto
END
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