```
div_4_to_1  THM

⊢  ∀a:ℕ, b:{...-1}. (a ÷ b) = -(a ÷ (-b))
| by Auto THEN ElaborateDivision Auto 0
|
1. a : ℕ
2. b : {...-1}
3. a = (a ÷ b)·b+(a rem b)
4. a = (a ÷ (-b))·(-b)+(a rem -b)
5. (a rem b) ∈ ℕ(-b)
6. (a rem -b) ∈ ℕ(-b)
⊢  (a ÷ b) = -(a ÷ (-b))
  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 ÷ b))·(-b)+(a rem b) = (a ÷ (-b))·(-b)+(a rem -b) ]
END
```