```
div_3_to_1  THM

⊢  ∀a:{...0}, b:{...-1}. (a ÷ b) = ((-a) ÷ (-b))
| by Auto THEN ElaborateDivision Auto 0
|
1. a : {...0}
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
```