```
div_inverts_nat_mul  THM

⊢  ∀x,y:ℕ, z:ℕ⁺. x = y·z ⇒ (x ÷ z) = y  by Autoℕ
|
1. x : ℕ
2. y : ℕ
3. z : ℕ⁺
4. x = y·z
⊢  (x ÷ z) = y  by ElaborateDivision Autoℕ Concl ...ℕ
|
5. x = (x ÷ z)·z+(x rem z)
6. (x rem z) ∈ ℕz
⊢  (x ÷ z) = y
| by Inst:
|    Thm*  ∀k:ℕ⁺, q1,q2:ℤ, r1,r2:ℕk.
|          q1·k+r1 = q2·k+r2 ⇒ q1 = q2 & r1 = r2
|    {division1_sfa}
|    Using:[z | y | x ÷ z | 0 | x rem z] ...wℕ
|
|\
| .....antecedent .....
| ⊢  y·z+0 = (x ÷ z)·z+(x rem z)  by Autoℕ
|
.\
. 7. y = (x ÷ z) & 0 = (x rem z)
. ⊢  (x ÷ z) = y  by Autoℕ
END
```