```
div_bounds_2  THM

⊢  ∀n:ℕ+, x:ℕ(n·n). (x ÷ n)<n  by RepD
|
1. n : ℕ+
2. x : ℕ(n·n)
⊢  (x ÷ n)<n
  by (Inst Thm* ∀a:ℤ, n:ℤ-0. a = (a ÷ n)·n+(a rem n)    {div_rem_sum}
       [x;n])
      THEN
      (Inst
       Thm* ∀a:ℕ, n:ℕ+. 0≤(a rem n) & (a rem n)<n    {rem_bounds_1}
       [x;n])
      THEN
      (Inst Thm* ∀i,j:ℤ. i≥j ⟺ -i≤-j    {minus_mono_wrt_le}
       [x rem n;0])
      THEN
      (Inst
       Thm* ∀i1,i2,j1,j2:ℤ. i1<j1 ⇒ i2≤j2 ⇒ i1+i2<j1+j2
       {add_functionality_wrt_lt}
       [(x ÷ n)·n+(x rem n);-(x rem n);n·n;0])
      THEN
      (Inst Thm* ∀a,b:ℤ, n:ℕ+. n·a<n·b ⇒ a<b    {mul_cancel_in_lt}
       [x ÷ n;n;n])
END
```