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eval_factorization_prod  THM

⊢  ∀a,b:ℤ, f,g:({a..b⁻}→ℕ).
|  Π↑{a..b⁻}(f)·Π↑{a..b⁻}(g) = Π↑{a..b⁻}(λi.f(i)+g(i))
| by Auto
|    THEN
|    Def of Π↑{<int>..<int>⁻}(<exponents>)
|    THEN
|    Rewrite by
|    Thm*  ∀a,b:ℤ, f,g:({a..b⁻}→ℤ).
|          (Π i:{a..b⁻}. f(i))·(Π i:{a..b⁻}. g(i))
|          =
|          (Π i:{a..b⁻}. f(i)·g(i))
|    {mul_via_intseg_factors}
|    THEN
|    Reduce Concl
|
1. a : ℤ
2. b : ℤ
3. f : {a..b⁻}→ℕ
4. g : {a..b⁻}→ℕ
⊢  (Π i:{a..b⁻}. i↑f(i)·i↑g(i)) = (Π i:{a..b⁻}. i↑(f(i)+g(i)))
| by Analyze
|
5. i : {a..b⁻}
⊢  i↑f(i)·i↑g(i) = i↑(f(i)+g(i))
  by BackThru: Thm*  ∀i:ℤ, x,y:ℕ. i↑x·i↑y = i↑(x+y)    {sum_exponent}
END
```