```
hanoi_seq_join_part1  THM

⊢  ∀n:ℕ, m,a,z:ℤ, s1:({a...m}→{1...n}→Peg),
|   s2:({m+1...z}→{1...n}→Peg), x:{a...m}. (s1 @(m) s2)(x) = s1(x)
| by Auto
|
1. n : ℕ
2. m : ℤ
3. a : ℤ
4. z : ℤ
5. s1 : {a...m}→{1...n}→Peg
6. s2 : {m+1...z}→{1...n}→Peg
7. x : {a...m}
⊢  (s1 @(m) s2)(x) = s1(x)
| by Compute ⌈(s1 @(m) s2)(x)⌉ *⇒ if x≤₂m→ s1(x) else s2(x) fi
|
⊢  if x≤₂m→ s1(x) else s2(x) fi = s1(x)  by SplitOnConclITE
END
```