

Inference at \* 1 1 1  
of proof for Lemma inv\_image\_ind.a:

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1. T : Type
2. r : T → T → ℙ
3. S : Type
4. f : S → T
5. WellFnd{i}(T;x,y.r(x,y))
6. P : S → ℙ
7. ∀j:S. (∀k:S. r(f(k),f(j)) ⇒ P(k)) ⇒ P(j)
8. S
9. x : T
⊢ ∀y:S. (f(y) = x) ⇒ P(y)
  by (% Do induction on T using hyp 5 %)
  (((WFndHypInd 5 (-1))
  CollapseTHENM (RepD)).)

CollapseTHENA ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n
  )) (first_tok :t) inil_term)))

1:

  9. j : T
  10. ∀k:T. r(k,j) ⇒ (∀y:S. (f(y) = k) ⇒ P(y))
  11. y : S
  12. f(y) = j
  ⊢ P(y)
.
```