

Inference at * 1 1 1 1
 of proof for Lemma fun_with_inv_is_bij:

1. $A : \text{Type}$
2. $B : \text{Type}$
3. $f : A \rightarrow B$
4. $g : B \rightarrow A$
5. $(g \circ f) = \text{Id}\{A\}$
6. $(f \circ g) = \text{Id}\{B\}$
7. $a_1 : A$
8. $a_2 : A$
9. $f(a_1) = f(a_2)$
10. $g(f(a_1)) = g(f(a_2))$

$\vdash a_1 = a_2$
 by (((NotThinning (With a_1 (EqHD 5))))
 CollapseTHENM (With a_2 (EqHD 5)))·)

CollapseTHENM ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 4:n)) (first_tok :t) inil_term)))·

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5. $(f \circ g) = \text{Id}\{B\}$
6. $a_1 : A$
7. $a_2 : A$
8. $f(a_1) = f(a_2)$
9. $g(f(a_1)) = g(f(a_2))$
10. $(g \circ f)(a_1) = \text{Id}\{A\}(a_1)$
11. $(g \circ f)(a_2) = \text{Id}\{A\}(a_2)$
- $\vdash a_1 = a_2$

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