

t12_unialg_2
(TMW39g6baFu5L5ZcZHnbVtdJQhxp1hdbxZ)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_unialg_1 : \iota \Rightarrow o$ be given. Let $v3_unialg_1 : \iota \Rightarrow o$ be given. Let $v4_unialg_1 : \iota \Rightarrow o$ be given. Let $l1_unialg_1 : \iota \Rightarrow o$ be given. Let $v1_unialg_1 : \iota \Rightarrow o$ be given. Let $m1_unialg_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1.(m1_unialg_2 \\ X1 X0) \Rightarrow (\forall X2.(m1_unialg_2 X2 X0) \Rightarrow ((r1_tarski (u1_struct_0 \\ X1) (u1_struct_0 X2)) \Rightarrow (m1_unialg_2 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1.((\neg \\ v2_struct_0 X1) \wedge ((v2_unialg_1 X1) \wedge ((v3_unialg_1 X1) \wedge ((v4_unialg_1 \\ X1) \wedge (l1_unialg_1 X1)))))) \Rightarrow (((v1_unialg_1 X0) \wedge (m1_unialg_2 \\ X0 X1)) \wedge ((v1_unialg_1 X1) \wedge (m1_unialg_2 X1 X0))) \Rightarrow (X0 = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1.(m1_unialg_2 \\ X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v2_unialg_1 X1) \wedge ((v3_unialg_1 X1) \wedge \\ ((v4_unialg_1 X1) \wedge (l1_unialg_1 X1)))))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1.((v1_unialg_1 \\ X1) \wedge (m1_unialg_2 X1 X0)) \Rightarrow (\forall X2.((v1_unialg_1 X2) \wedge (m1_unialg_2 \\ X2 X0)) \Rightarrow ((u1_struct_0 X1 = u1_struct_0 X2) \Rightarrow (X1 = X2)))) \end{aligned}$$