

t1_osalg_3

(TMEove1YH8ruLWMG41HTEtqUHRXUBX6EFZH)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Let $v1_osalg_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((k4_tarski X0 X1 \in X2) \Leftrightarrow ((X0 \in k9_xtuple_0 X2) \wedge (X1 = k1_funct_1 X2 X0))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0))) \Rightarrow ((v1_relat_1 (k1_funct_1 X0 X1)) \wedge (v1_funct_1 (k1_funct_1 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. \forall X3. (k4_tarski X2 X3 \in X0) \Rightarrow (k4_tarski X2 X3 \in X1))) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\
& X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((v1_relat_1 \\
& X1) \wedge ((v4_relat_1 X1 (u1_struct_0 X0)) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 \\
& X1 (u1_struct_0 X0)) \wedge (v1_funcop_1 X1)))))) \Rightarrow ((v1_osalg_3 X1 X0) \Leftrightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow ((r3_orders_2 X0 X2 X3) \Rightarrow (\forall X4.(X4 \in \\
& k9_xtuple_0 (k1_funct_1 X1 X2)) \Rightarrow ((X4 \in k9_xtuple_0 (k1_funct_1 \\
& X1 X3)) \wedge (k1_funct_1 (k1_funct_1 X1 X2) X4 = k1_funct_1 (k1_funct_1 \\
& X1 X3) X4)))))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\
& X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((v1_relat_1 \\
& X1) \wedge ((v4_relat_1 X1 (u1_struct_0 X0)) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 \\
& X1 (u1_struct_0 X0)) \wedge (v1_funcop_1 X1)))))) \Rightarrow ((v1_osalg_3 X1 X0) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow ((r3_orders_2 X0 X2 X3) \Rightarrow ((r1_tarski (k9_xtuple_0 \\
& (k1_funct_1 X1 X2)) (k9_xtuple_0 (k1_funct_1 X1 X3))) \wedge (r1_tarski \\
& (k1_funct_1 X1 X2) (k1_funct_1 X1 X3)))))))))
\end{aligned}$$