

t16_osalg_1 (TMMSF- beiLYE6HkGREgbPiHhLSrf7qWV4CZ2)

October 27, 2020

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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v11_osalg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.(\neg v1_xboole_0 \\ & X1) \Rightarrow ((v2_relat_1 (k3_osalg_1 X0 X1)) \wedge (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((r3_orders_2 X0 X2 X3) \Rightarrow (r1_tarski (k1_funct_1 (k3_osalg_1 \\ & X0 X1) X2) (k1_funct_1 (k3_osalg_1 X0 X1) X3))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1.(((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\ & ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \wedge (\\ & \neg v1_xboole_0 X1) \Rightarrow ((v1_relat_1 (k3_osalg_1 X0 X1)) \wedge ((v4_relat_1 \\ & (k3_osalg_1 X0 X1) (u1_struct_0 X0)) \wedge ((v1_funct_1 (k3_osalg_1 \\ & X0 X1)) \wedge (v1_partfun1 (k3_osalg_1 X0 X1) (u1_struct_0 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((v1_relat_1 \\ & X1) \wedge ((v4_relat_1 X1 (u1_struct_0 X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 \\ & X1 (u1_struct_0 X0)))))) \Rightarrow ((v11_osalg_1 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((r3_orders_2 X0 X2 X3) \Rightarrow (r1_tarski (k1_funct_1 X1 X2) (k1_funct_1 \\ & X1 X3)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge (v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1. (\neg v1_xboole_0 X1) \Rightarrow (v11_osalg_1 (k3_osalg_1 X0 X1) X0))$$