

t19_osalg_1 (TMEhZPh-
SAYfJf6pXZUoW45CCfvu4dRXZEDD)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_3 : \iota \Rightarrow o$ be given. Let $v4_osalg_1 : \iota \Rightarrow o$ be given. Let $v5_osalg_1 : \iota \Rightarrow o$ be given. Let $l3_osalg_1 : \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v12_osalg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_osalg_1 : \iota \Rightarrow o$ be given. Let $l2_osalg_1 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_orders_3 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_orders_2 X0 X1 X2) \Leftrightarrow (X1 = \\ & X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ & X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ & m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((r3_orders_2 X0 X1 X2) \Leftrightarrow (r1_orders_2 \\ & X0 X1 X2)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l3_osalg_1 X0) \Rightarrow ((l1_osalg_1 X0) \wedge (l2_osalg_1 X0)) \tag{3}$$

Assume the following.

$$\forall X0.(l2_osalg_1 X0) \Rightarrow ((l1_msualg_1 X0) \wedge (l1_orders_2 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ & X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1.(l3_msualg_1 \\ & X1 X0) \Rightarrow ((v12_osalg_1 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r3_orders_2 \\ & X0 X2 X3) \Rightarrow (r1_tarSKI (k1_funct_1 (u3_msualg_1 X0 X1) X2) (k1_funct_1 \\ & (u3_msualg_1 X0 X1) X3)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1_tarSKI X0 X1) \wedge (r1_tarSKI X1 X0)) \quad (6)$$

Assume the following.

$$\forall X0. (l3_osalg_1 X0) \Rightarrow ((v4_osalg_1 X0) \Rightarrow ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge (v5_orders_2 X0)))) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v1_orders_3 \\ & X0) \wedge ((v4_osalg_1 X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow \\ & (\forall X1.(l3_msualg_1 X1 X0) \Rightarrow (v12_osalg_1 X1 X0)) \end{aligned}$$