

t28_osalg_1

(TMYJfUycV2bdjZSz7jh9oUmw7wqYUacQSJF)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ 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 $v12_osalg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_orders_3 : \iota \Rightarrow o$ be given. Let $v6_osalg_1 : \iota \Rightarrow o$ be given. Let $v13_osalg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_osalg_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_osalg_1 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $k5_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r6_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ & X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u4_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u4_struct_0 \\ & X0)) \Rightarrow (((v1_orders_3 X0) \wedge ((r1_osalg_1 X0 X1 X2) \wedge ((r2_osalg_1 \\ & X0 (k1_msualg_1 X0 X1) (k1_msualg_1 X0 X2)) \wedge (r3_orders_2 X0 (k2_msualg_1 \\ & X0 X1) (k2_msualg_1 X0 X2)))))) \Rightarrow (X1 = X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_osalg_1 \\ & X0))) \Rightarrow ((v6_osalg_1 X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u4_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u4_struct_0 X0)) \Rightarrow ((r1_osalg_1 \\ & X0 X1 X2) \Rightarrow (X1 = X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\\ & k5_relat_1 X1 X0 = X1) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l3_osalg_1 X0)\Rightarrow((l1_osalg_1 X0)\wedge(l2_osalg_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_osalg_1 X0)\Rightarrow(l1_msualg_1 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 \\ & X0)\wedge(l1_msualg_1 X0)))\wedge((m1_subset_1 X1 (u4_struct_0 X0))\wedge(\\ & l3_msualg_1 X2 X0)))\Rightarrow((v1_funct_1 (k5_msualg_1 X0 X1 X2))\wedge((v1_funct_2 \\ & (k5_msualg_1 X0 X1 X2) (k3_msualg_1 X0 X1 X2) (k4_msualg_1 X0 X1 X2))\wedge \\ & (m1_subset_1 (k5_msualg_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k3_msualg_1 X0 X1 X2) (k4_msualg_1 X0 X1 X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 \\ & X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0)))))\Rightarrow(\forall X1.((v12_osalg_1 \\ & X1 X0)\wedge(l3_msualg_1 X1 X0))\Rightarrow((v13_osalg_1 X1 X0)\Leftrightarrow(\forall X2. \\ & (m1_subset_1 X2 (u4_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 \\ & (u4_struct_0 X0))\Rightarrow((r6_osalg_1 X0 X2 X3)\Rightarrow(k2_partfun1 (k3_msualg_1 \\ & X0 X3 X1) (k4_msualg_1 X0 X3 X1) (k5_msualg_1 X0 X3 X1) (k3_msualg_1 \\ & X0 X2 X1) = k5_msualg_1 X0 X2 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 \\ & X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0)))))\Rightarrow(\forall X1.(m1_subset_1 \\ & X1 (u4_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u4_struct_0 \\ & X0))\Rightarrow((r6_osalg_1 X0 X1 X2)\Leftrightarrow((r1_osalg_1 X0 X1 X2)\wedge((r2_osalg_1 \\ & X0 (k1_msualg_1 X0 X1) (k1_msualg_1 X0 X2))\wedge(r3_orders_2 X0 (k2_msualg_1 \\ & X0 X1) (k2_msualg_1 X0 X2)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (11)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0)))))\Rightarrow(\forall X1.((v12_osalg_1 X1 X0)\wedge(l3_msualg_1 X1 X0))\Rightarrow(((v1_orders_3 X0)\vee(v6_osalg_1 X0))\Rightarrow(v13_osalg_1 X1 X0)))$$