

t9_msualg_1
(TMP3w2Z1efkN27xBGe3QmP6FKdMTK3vx8WC)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_unialg_1 : \iota \Rightarrow o$ 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 $k12_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_msualg_1 : \iota \Rightarrow \iota$ be given. Let $k9_msualg_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $l1_msualg_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_msualg_1 : \iota \Rightarrow \iota$ be given. Let $k6_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_msualg_1 : \iota \Rightarrow \iota$ be given. Let $g3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v13_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $v5_msualg_1 : \iota \Rightarrow o$ be given. Let $l5_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_msualg_1 : \iota \Rightarrow \iota$ be given. Let $k7_msualg_1 : \iota \Rightarrow \iota$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_unialg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_unialg_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \neq k1_xboole_0) \Rightarrow (k10_xtuple_0 (k2_funcop_1 X0 X1) = k1_tarski X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k7_funcop_1 X0 X1 = k2_funcop_1 X0 X1 \quad (3)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_msualg_1 \\ X0))\wedge(((v1_relat_1 X1)\wedge((v4_relat_1 X1 (u1_struct_0 X0))\wedge((\\ v1_funct_1 X1)\wedge(v1_partfun1 X1 (u1_struct_0 X0))))))\wedge(m2_pboole \\ X2 (u4_struct_0 X0) (k3_relat_1 (u1_msualg_1 X0) (k6_finseq_2 \\ (u1_struct_0 X0) X1)) (k3_relat_1 (u2_msualg_1 X0) X1))))\Rightarrow(\forall X3. \\ \forall X4.\forall X5.(g3_msualg_1 X0 X1 X2 = g3_msualg_1 X3 X4 X5)\Rightarrow \\ ((X0 = X3)\wedge((X1 = X4)\wedge(X2 = X5)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_unialg_1 X0)\wedge((v3_unialg_1 \\ X0)\wedge((v4_unialg_1 X0)\wedge(l1_unialg_1 X0))))))\Rightarrow((v3_msualg_1 (\\ k9_msualg_1 X0) (k6_msualg_1 X0))\wedge(v4_msualg_1 (k9_msualg_1 \\ X0) (k6_msualg_1 X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k1_tarski X0) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_unialg_1 X0)\wedge((v3_unialg_1 \\ X0)\wedge((v4_unialg_1 X0)\wedge(l1_unialg_1 X0))))))\Rightarrow((v7_struct_0 (\\ k6_msualg_1 X0))\wedge((\neg v11_struct_0 (k6_msualg_1 X0))\wedge((v13_struct_0 \\ (k6_msualg_1 X0) np_1)\wedge((v1_msualg_1 (k6_msualg_1 X0))\wedge(v5_msualg_1 \\ (k6_msualg_1 X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (9)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1 X1 X0 \quad (10)$$

Assume the following.

$$\forall X0.(l5_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.(l1_msualg_1 X0)\Rightarrow(l5_struct_0 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_unialg_1 X0)\wedge((v3_unialg_1 \\ X0)\wedge((v4_unialg_1 X0)\wedge(l1_unialg_1 X0))))))\Rightarrow((v3_msualg_1 (\\ k9_msualg_1 X0) (k6_msualg_1 X0))\wedge(l3_msualg_1 (k9_msualg_1 \\ X0) (k6_msualg_1 X0))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (m2_pboole (k8_msualg_1 \\ X0) (u4_struct_0 (k6_msualg_1 X0)) (k3_relat_1 (u1_msualg_1 (\\ k6_msualg_1 X0)) (k6_finseq_2 (u1_struct_0 (k6_msualg_1 X0)) \\ (k7_msualg_1 X0))) (k3_relat_1 (u2_msualg_1 (k6_msualg_1 X0)) \\ (k7_msualg_1 X0)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v1_relat_1 (k7_msualg_1 \\ X0)) \wedge ((v2_relat_1 (k7_msualg_1 X0)) \wedge ((v4_relat_1 (k7_msualg_1 \\ X0) (u1_struct_0 (k6_msualg_1 X0))) \wedge ((v1_funct_1 (k7_msualg_1 \\ X0)) \wedge (v1_partfun1 (k7_msualg_1 X0) (u1_struct_0 (k6_msualg_1 \\ X0)))))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v7_struct_0 (\\ k6_msualg_1 X0)) \wedge ((\neg v11_struct_0 (k6_msualg_1 X0)) \wedge ((v1_msualg_1 \\ (k6_msualg_1 X0)) \wedge ((v5_msualg_1 (k6_msualg_1 X0)) \wedge (l1_msualg_1 \\ (k6_msualg_1 X0)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (k7_msualg_1 X0 = \\ k16_funcop_1 k6_numbers (u1_struct_0 X0)) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarSKI X0) X1 \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. k2_funcop_1 X0 X1 = k2_zfmisc_1 X0 (k1_tarSKI X1) \quad (19)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1_tarSKI X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v11_struct_0 X0) \wedge ((v13_struct_0 X0 \ np_1) \wedge ((v5_msualg_1 \\ X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1.((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 \\ X1 X0)) \Rightarrow (k12_msualg_1 X0 X1 = g1_unialg_1 (k10_msualg_1 X0 X1) (\\ k11_msualg_1 X0 X1))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v11_struct_0 X0) \wedge ((v13_struct_0 X0 \ np_1) \wedge ((v5_msualg_1 \\ X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1.((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 \\ X1 X0)) \Rightarrow (k11_msualg_1 X0 X1 = u4_msualg_1 X0 X1)) \end{aligned} \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0.((v13_struct_0 X0 \ np_1) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ (l3_msualg_1 X1 X0) \Rightarrow (\forall X2.(X2 = k10_msualg_1 X0 X1) \Leftrightarrow (m1_subset_1 \\ X2 (k10_xtuple_0 (u3_msualg_1 X0 X1)))))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (k9_msualg_1 X0 = \\ g3_msualg_1 (k6_msualg_1 X0) (k7_msualg_1 X0) (k8_msualg_1 X0)) \end{aligned} \quad (24)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (k8_msualg_1 X0 = \\ u1_unialg_1 X0) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_struct_0 X0) \Rightarrow ((v13_struct_0 X0 \ np_1) \Rightarrow ((\neg v2_struct_0 \\ X0) \wedge (v7_struct_0 X0))) \end{aligned} \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.(((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \wedge \\ (l3_msualg_1 X1 X0)) \Rightarrow ((v3_msualg_1 X1 X0) \Rightarrow (X1 = g3_msualg_1 X0 \\ (u3_msualg_1 X0 X1) (u4_msualg_1 X0 X1))) \end{aligned} \quad (27)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_unialg_1 X0) \Rightarrow ((v1_unialg_1 X0) \Rightarrow (X0 = g1_unialg_1 \\ (u1_struct_0 X0) (u1_unialg_1 X0))) \end{aligned} \quad (28)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_unialg_1 X0) \wedge ((v2_unialg_1 \\ X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow \\ (X0 = k12_msualg_1 (k6_msualg_1 X0) (k9_msualg_1 X0)) \end{aligned}$$