

t33_osalg_1

(TMQzC8AgGd64XQTTWGmsVDdre7qiJg3av73)

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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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_osalg_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_osalg_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1.(m2_subset_1 \\ X1 (k1_zfmisc_1 (u4_struct_0 X0)) (k7_osalg_1 X0)) \Leftrightarrow (\exists X2. \\ (m1_subset_1 X2 (u4_struct_0 X0)) \wedge (X1 = k8_osalg_1 X0 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u4_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 \\ X0)) \Rightarrow ((r1_osalg_1 X0 X1 X2) \Leftrightarrow (k8_osalg_1 X0 X1 = k8_osalg_1 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u4_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 \\ X0)) \Rightarrow ((r1_osalg_1 X0 X1 X2) \Leftrightarrow (X2 \in k6_eqrel_1 (u4_struct_0 X0) (\\ u4_struct_0 X0) (u1_osalg_1 X0) X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))))\wedge(m1_subset_1 X1 (k7_osalg_1 X0))\Rightarrow(\forall X2.(m1_osalg_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))))\Rightarrow((\neg v1_xboole_0 (k7_osalg_1 X0))\wedge(m1_subset_1 (k7_osalg_1 X0) (k1_zfmisc_1 (k1_zfmisc_1 (u4_struct_0 X0)))))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u4_struct_0 X0))\Rightarrow(k8_osalg_1 X0 X1 = k6_eqrel_1 (u4_struct_0 X0) (u4_struct_0 X0) (u1_osalg_1 X0) X1)) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (k7_osalg_1 X0))\Rightarrow(\neg v1_xboole_0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (11)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v4_osalg_1 X0)\wedge((v5_osalg_1 X0)\wedge(l3_osalg_1 X0))))))\Rightarrow(\forall X1.(m2_subset_1 X1 (k1_zfmisc_1 (u4_struct_0 X0)) (k7_osalg_1 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u4_struct_0 X0))\Rightarrow((m1_osalg_1 X2 X0 X1)\Leftrightarrow(k8_osalg_1 X0 X2 = X1))))$$