

t3_osalg_2 (TMQGueocK- FxVMY12UPEjfbq22Q6fv8gLe5Y)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $v2_msualg_2 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $k1_osalg_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k13_finseq_1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_msualg_1 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_msualg_1 : \iota \Rightarrow \iota$ be given. Let $l5_struct_0 : \iota \Rightarrow o$ be given. Let $l3_osalg_1 : \iota \Rightarrow o$ be given. Let $l1_osalg_1 : \iota \Rightarrow o$ be given. Let $l2_osalg_1 : \iota \Rightarrow o$ be given. Let $v3_osalg_1 : \iota \Rightarrow o$ be given. Let $v4_osalg_1 : \iota \Rightarrow o$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $u1_osalg_1 : \iota \Rightarrow \iota$ be given. Let $v1_msualg_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1_xboole_0 X1) \wedge (\neg v1_xboole_0 X3) \wedge (((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow ((r1_funct_2 X0 X1 X2 X3 X4 X5) \Leftrightarrow (X4 = X5)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. k3_finseq_2 X0 = k13_finseq_1 X0 \tag{2}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{3}$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k13_finseq_1 X0) \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. (&l1_msualg_1 X0) \Rightarrow ((v1_funct_1 (u2_msualg_1 X0)) \wedge \\ &((v1_funct_2 (u2_msualg_1 X0) (u4_struct_0 X0) (u1_struct_0 X0)) \wedge \\ &(m1_subset_1 (u2_msualg_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u4_struct_0 \\ &X0) (u1_struct_0 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (&l1_msualg_1 X0) \Rightarrow ((v1_funct_1 (u1_msualg_1 X0)) \wedge \\ &((v1_funct_2 (u1_msualg_1 X0) (u4_struct_0 X0) (k3_finseq_2 (\\ &u1_struct_0 X0))) \wedge (m1_subset_1 (u1_msualg_1 X0) (k1_zfmisc_1 \\ &(k2_zfmisc_1 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. (l5_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\forall X0. (l3_osalg_1 X0) \Rightarrow ((l1_osalg_1 X0) \wedge (l2_osalg_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0. (l1_osalg_1 X0) \Rightarrow (l1_msualg_1 X0) \quad (9)$$

Assume the following.

$$\forall X0. (l1_msualg_1 X0) \Rightarrow (l5_struct_0 X0) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ &X0))) \Rightarrow ((\neg v2_struct_0 (k1_osalg_1 X0)) \wedge ((\neg v11_struct_0 (k1_osalg_1 \\ &X0)) \wedge ((v3_osalg_1 (k1_osalg_1 X0)) \wedge ((v4_osalg_1 (k1_osalg_1 \\ &X0)) \wedge (l3_osalg_1 (k1_osalg_1 X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ &X0))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((\neg v11_struct_0 X1) \wedge (\\ &(v3_osalg_1 X1) \wedge ((v4_osalg_1 X1) \wedge (l3_osalg_1 X1)))))) \Rightarrow ((X1 = \\ &k1_osalg_1 X0) \Leftrightarrow ((u1_struct_0 X0 = u1_struct_0 X1) \wedge ((k6_partfun1 \\ &(u1_struct_0 X0) = u1_orders_2 X1) \wedge ((u4_struct_0 X0 = u4_struct_0 \\ &X1) \wedge ((k6_partfun1 (u4_struct_0 X0) = u1_osalg_1 X1) \wedge ((r1_funct_2 \\ &(u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)) (u4_struct_0 \\ &X1) (k3_finseq_2 (u1_struct_0 X1)) (u1_msualg_1 X0) (u1_msualg_1 \\ &X1)) \wedge (r1_funct_2 (u4_struct_0 X0) (u1_struct_0 X0) (u4_struct_0 \\ &X1) (u1_struct_0 X1) (u2_msualg_1 X0) (u2_msualg_1 X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow ((v2_msualg_2 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (v1_msualg_2 X1 X0))) \quad (13)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((v1_msualg_2 X1 X0) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (u4_struct_0 X0)) \wedge ((k1_funct_1 (u1_msualg_1 X0) X2 = k1_xboole_0) \wedge (k1_funct_1 (u2_msualg_1 X0) X2 = X1)))))) \quad (14)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v1_msualg_1 X0) \wedge ((v2_msualg_2 X0) \wedge (l1_msualg_1 X0))))) \Rightarrow (v2_msualg_2 (k1_osalg_1 X0))$$