

t43_group_9 (TMd- sXL25KCAgAL9DzzeEcpiyBTCMMrQYfn4)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $k10_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_group_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_group_6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $g3_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.((v1_group_3 X1 X0) \wedge (m1_group_2 \\ X1 X0)) \Rightarrow (k1_group_1 (k5_group_6 X0 X1) = k8_group_2 X0 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\ (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \Rightarrow (\\ \forall X2. ((v4_group_9 X2 X0 X1) \wedge (m1_group_9 X2 X0 X1)) \Rightarrow ((v15_algstr_0 \\ (g3_algstr_0 (u1_struct_0 X2) (u2_algstr_0 X2))) \wedge ((v1_group_3 \\ (g3_algstr_0 (u1_struct_0 X2) (u2_algstr_0 X2)) X1) \wedge (m1_group_2 \\ (g3_algstr_0 (u1_struct_0 X2) (u2_algstr_0 X2)) X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.((v4_group_9 X2 X0 X1)\wedge(m1_group_9 X2 X0 X1))\Rightarrow(\forall X3. \\ & ((v1_group_3 X3 X1)\wedge(m1_group_2 X3 X1))\Rightarrow((X3 = g3_algstr_0 (u1_struct_0 \\ & X2) (u2_algstr_0 X2))\Rightarrow((k5_group_6 X1 X3 = g3_algstr_0 (u1_struct_0 \\ & (k10_group_9 X0 X1 X2)) (u2_algstr_0 (k10_group_9 X0 X1 X2)))\wedge(\\ & k1_group_1 (k5_group_6 X1 X3) = k1_group_1 (k10_group_9 X0 X1 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 \\ & X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0))))\Rightarrow(\forall X2.\forall X3.(g3_algstr_0 X0 X1 = g3_algstr_0 \\ & X2 X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3_algstr_0 X0)\Rightarrow((v1_funct_1 (u2_algstr_0 X0))\wedge \\ & ((v1_funct_2 (u2_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0))\wedge(m1_subset_1 (u2_algstr_0 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge(l3_algstr_0 \\ & X0)))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow((\neg v2_struct_0 X1)\wedge((v2_group_1 \\ & X1)\wedge(l3_algstr_0 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(l1_group_9 X1 X0)\Rightarrow(l3_algstr_0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ & X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(k8_group_2 \\ & X0 X1 = u1_struct_0 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge(\\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.(m1_group_9 X2 X0 X1)\Rightarrow(k15_group_9 X0 X1 X2 = u1_struct_0 \\ & X2)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3_algstr_0 X0)\Rightarrow((v15_algstr_0 X0)\Rightarrow(X0 = g3_algstr_0 \\ & (u1_struct_0 X0) (u2_algstr_0 X0))) \end{aligned} \quad (10)$$

Theorem 1

$$\forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge(v3_group_1 X1)\wedge(v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\forall X2.((v4_group_9 X2 X0 X1)\wedge(m1_group_9 X2 X0 X1))\Rightarrow(k1_group_1(k10_group_9 X0 X1 X2) = k15_group_9 X0 X1 X2))$$