

t115_group_2
(TMcxcAALrcUH2QZ89S9LmRrZrJKy4E9b8u7)

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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 $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k14_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole_0 X0 X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 X0 X1 X2 = X3) \Leftrightarrow (X2 = k6_algstr_0 X0 (k2_group_1 X0 X1) X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_group_2 X3 X0) \Rightarrow ((k13_group_2 X0 X3 X1 = k13_group_2 X0 X3 X2) \Leftrightarrow (r1_struct_0 X3 (k6_algstr_0 X0 (k2_group_1 X0 X2) X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_group_2 X2 X0) \Rightarrow ((X1 \in k13_group_2 X0 X2 X1) \wedge \\ & (X1 \in k14_group_2 X0 X2 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ (v3_group_1 X1)\wedge(l3_algstr_0 X1)))\Rightarrow(\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X1))\Rightarrow(\forall X3.(m1_group_2 X3 X1)\Rightarrow((X0 \in k13_group_2 \\ X1 X3 X2)\Leftrightarrow(\exists X4.(m1_subset_1 X4 (u1_struct_0 X1))\wedge((X0 = \\ k6_algstr_0 X1 X2 X4)\wedge(r1_struct_0 X3 X4)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1)\Rightarrow(r1_xboole_0 X1 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((l3_algstr_0 X0)\wedge((m1_subset_1 \\ X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 \\ (k6_algstr_0 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3. \\ (m1_group_2 X3 X0)\Rightarrow((k13_group_2 X0 X3 X1 = k13_group_2 X0 X3 X2)\Leftrightarrow \\ (\neg r1_xboole_0 (k13_group_2 X0 X3 X1) (k13_group_2 X0 X3 X2)))))) \end{aligned}$$