

t105_group_3
(TMG51Rhhj6g4g4TRdHne4Y7rvdLhxcLNtgN)

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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 $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $r6_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g3_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_group_2 X3 X0) \Rightarrow (r1_group_2 X0 (k6_group_3 X0 (k6_group_3 X0 \\ & X3 X1) X2) (k6_group_3 X0 X3 (k6_algstr_0 X0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (((v15_algstr_0 X1) \wedge \\ & (m1_group_2 X1 X0)) \wedge ((v15_algstr_0 X2) \wedge (m1_group_2 X2 X0)))) \Rightarrow \\ & ((r6_group_3 X0 X1 X2) \Leftrightarrow (r5_group_3 X0 X1 X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (((v15_algstr_0 X1) \wedge \\ & (m1_group_2 X1 X0)) \wedge ((v15_algstr_0 X2) \wedge (m1_group_2 X2 X0)))) \Rightarrow \\ & ((r1_group_2 X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge (l3_algstr_0 \\ & X0))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ & X1) \wedge (l3_algstr_0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_group_1 \\ & X0)\wedge((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge((m1_group_2 X1 X0)\wedge \\ & (m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow((v15_algstr_0 (k6_group_3 \\ & X0 X1 X2))\wedge(m1_group_2 (k6_group_3 X0 X1 X2) X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((l3_algstr_0 X0)\wedge((m1_subset_1 \\ & X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 \\ & (k6_algstr_0 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ & X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(\forall X2. \\ & (m1_group_2 X2 X0)\Rightarrow((r5_group_3 X0 X1 X2)\Leftrightarrow(\exists X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0))\wedge(g3_algstr_0 (u1_struct_0 X1) (u2_algstr_0 \\ & X1) = k6_group_3 X0 X2 X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3_algstr_0 X0)\Rightarrow((v15_algstr_0 X0)\Rightarrow(X0 = g3_algstr_0 \\ & (u1_struct_0 X0) (u2_algstr_0 X0))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ & X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(\forall X2. \\ & ((v15_algstr_0 X2)\wedge(m1_group_2 X2 X0))\Rightarrow(\forall X3.((v15_algstr_0 \\ & X3)\wedge(m1_group_2 X3 X0))\Rightarrow(((r6_group_3 X0 X2 X3)\wedge(r5_group_3 X0 \\ & X3 X1))\Rightarrow(r5_group_3 X0 X2 X1)))))) \end{aligned}$$