

l2_autgroup (TMKaX- Ayme9PbnCuBqAN85k8sQ3ZjtpzZn8M)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ 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 $v1_group_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k7_group_2 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ (v3_group_1 X1) \wedge (l3_algstr_0 X1))) \Rightarrow (\forall X2. (m1_subset_1 \\ X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_group_2 X3 X1) \Rightarrow ((r1_struct_0 \\ (k6_group_3 X1 X3 X2) X0) \Leftrightarrow (\exists X4. (m1_subset_1 X4 (u1_struct_0 \\ X1)) \wedge ((X0 = k2_group_3 X1 X4 X2) \wedge (r1_struct_0 X3 X4)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ (l3_algstr_0 X1))) \Rightarrow (\forall X2. (m1_group_2 X2 X1) \Rightarrow ((r1_struct_0 \\ X2 X0) \Rightarrow (r1_struct_0 X1 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge (l3_algstr_0 \\ X0))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ X1) \wedge (l3_algstr_0 X1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow ((v15_algstr_0 (k7_group_2 X0)) \wedge (m1_group_2 (k7_group_2 X0) X0)) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (k7_group_2 X0 = g3_algstr_0 (u1_struct_0 X0) (u2_algstr_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(r1_struct_0 X0 X1) \Leftrightarrow (X1 \in u1_struct_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow ((v1_group_3 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0) \Rightarrow (k6_group_3 X0 X1 X2 = g3_algstr_0 (u1_struct_0 X1) (u2_algstr_0 X1)))))) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (v3_group_1 X1)) \quad (11)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v15_algstr_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow ((v1_group_3 X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0) \Rightarrow ((m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (r1_struct_0 X1 (k2_group_3 X0 X3 X2))))))))))$$