

t27_group_1 (TMZ-
zRNd9R6BW6ep27Bz5L6TndvUQZEHj6By)

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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 $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_group_2 : \iota \Rightarrow \iota$ be given. Let $v8_struct_0 : \iota \Rightarrow o$ be given. Let $v1_gr_cy_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v8_struct_0 X0) \wedge ((v2_group_1 \\ X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))))) \Rightarrow ((v1_gr_cy_1 X0) \Leftrightarrow \\ (\exists X1. (m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\forall X2. (m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\exists X3. (v7_ordinal1 X3) \wedge (X2 = k5_group_1 \\ X0 X3 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ (u1_struct_0 X1)) \Rightarrow ((k6_algstr_0 X1 X2 X3 = k6_algstr_0 X1 X3 X2) \Rightarrow \\ (k5_group_1 X1 X0 (k6_algstr_0 X1 X2 X3) = k6_algstr_0 X1 (k5_group_1 \\ X1 X0 X2) (k5_group_1 X1 X0 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ (u1_struct_0 X1)) \Rightarrow ((k6_algstr_0 X1 X2 X3 = k6_algstr_0 X1 X3 X2) \Rightarrow \\ (k6_algstr_0 X1 X2 (k5_group_1 X1 X0 X3) = k6_algstr_0 X1 (k5_group_1 \\ X1 X0 X3) X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ ((v2_group_1\ X1) \wedge ((v3_group_1\ X1) \wedge (l3_algstr_0\ X1)))) \Rightarrow (\forall X2. \\ (m1_subset_1\ X2\ (u1_struct_0\ X1)) \Rightarrow ((k5_group_1\ X1\ (k1_nat_1\ X0 \\ np_1)\ X2 = k6_algstr_0\ X1\ (k5_group_1\ X1\ X0\ X2)\ X2) \wedge (k5_group_1 \\ X1\ (k1_nat_1\ X0\ np_1)\ X2 = k6_algstr_0\ X1\ X2\ (k5_group_1\ X1\ X0\ X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_group_1\ X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0\ X0)))) \Rightarrow ((v15_algstr_0\ (k6_group_2\ X0)) \wedge (v1_gr_cy_1 \\ (k6_group_2\ X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_group_1\ X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0\ X0)))) \Rightarrow ((v8_struct_0\ (k6_group_2\ X0)) \wedge (v15_algstr_0 \\ (k6_group_2\ X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_group_1\ X0) \wedge (l3_algstr_0 \\ X0))) \Rightarrow (\forall X1.(m1_group_2\ X1\ X0) \Rightarrow ((\neg v2_struct_0\ X1) \wedge ((v2_group_1 \\ X1) \wedge (l3_algstr_0\ X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_group_1\ X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0\ X0)))) \Rightarrow ((v15_algstr_0\ (k6_group_2\ X0)) \wedge (m1_group_2 \\ (k6_group_2\ X0)\ X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ ((v2_group_1\ X1) \wedge ((v3_group_1\ X1) \wedge (l3_algstr_0\ X1)))) \Rightarrow ((v2_grouppp_1 \\ X1\ X0) \Leftrightarrow (\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X1)) \Rightarrow (\forall X3. \\ (m1_subset_1\ X3\ (u1_struct_0\ X1)) \Rightarrow (k5_group_1\ X1\ X0\ (k6_algstr_0 \\ X1\ X2\ X3) = k6_algstr_0\ X1\ (k5_group_1\ X1\ X0\ X2)\ (k5_group_1\ X1\ X0\ X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_group_1\ X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0\ X0)))) \Rightarrow (\forall X1.(m1_group_2\ X1\ X0) \Rightarrow (v3_group_1 \\ X1)) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_group_1\ X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0\ X0)))) \Rightarrow (\forall X1.((v7_ordinal1\ X1) \wedge (v1_int_2 \\ X1)) \Rightarrow (v2_grouppp_1\ (k6_group_2\ X0)\ X1)) \end{aligned}$$