

l31_group_3

(TMUdPBiXu96MBpqqX4i1e3b5KqxJJVbz2n1)

October 27, 2020

Let $v7_ordinal1 : \iota \Rightarrow o$ be given. 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 $k2_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k2_group_3 X0 (k6_algstr_0 \\ & X0 X1 X2) X3 = k6_algstr_0 X0 (k2_group_3 X0 X1 X3) (k2_group_3 X0 X2 \\ & X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow ((k5_group_1 X1 (k1_nat_1 X0 \\ & np_1) X2 = k6_algstr_0 X1 (k5_group_1 X1 X0 X2) X2) \wedge (k5_group_1 \\ & X1 (k1_nat_1 X0 np_1) X2 = k6_algstr_0 X1 X2 (k5_group_1 X1 X0 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((v1_int_1 X1) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k5_group_1 X0 X1 X2) (u1_struct_0 \\ & X0)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_group_1 \\ & X0)\wedge((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge((m1_subset_1 X1 (\\ & u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 \\ & (k2_group_3 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_int_1 X0) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0)\Rightarrow((\forall X1.((\neg v2_struct_0 X1)\wedge \\ & ((v2_group_1 X1)\wedge((v3_group_1 X1)\wedge(l3_algstr_0 X1))))\Rightarrow(\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1))\Rightarrow(\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X1))\Rightarrow(k2_group_3 X1 (k5_group_1 X1 X0 X2) X3 = k5_group_1 \\ & X1 X0 (k2_group_3 X1 X2 X3))))\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ & ((v2_group_1 X1)\wedge((v3_group_1 X1)\wedge(l3_algstr_0 X1))))\Rightarrow(\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1))\Rightarrow(\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X1))\Rightarrow(k2_group_3 X1 (k5_group_1 X1 (k1_nat_1 X0 np_1) \\ & X2) X3 = k5_group_1 X1 (k1_nat_1 X0 np_1) (k2_group_3 X1 X2 X3)))))) \end{aligned}$$