

t47_group_11
(TMY2sRysZ76KgCuDowkWGfVRMewjKqVdPte)

October 27, 2020

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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_group_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_group_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_11 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1_group_2 X2 X0) \Rightarrow (\forall X3.(m1_group_2 X3 X0) \Rightarrow ((u1_struct_0 \\ & X1 = k7_group_4 X0 X2 X3) \Rightarrow ((m1_group_2 X2 X1) \wedge (m1_group_2 X3 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.((v15_algstr_0 X1) \wedge ((v1_group_3 \\ & X1 X0) \wedge (m1_group_2 X1 X0))) \Rightarrow (\forall X2.((v15_algstr_0 X2) \wedge \\ & (v1_group_3 X2 X0) \wedge (m1_group_2 X2 X0))) \Rightarrow (\exists X3.((v15_algstr_0 \\ & X3) \wedge ((v1_group_3 X3 X0) \wedge (m1_group_2 X3 X0))) \wedge (u1_struct_0 X3 = \\ & k7_group_4 X0 X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\forall X2.(m1_group_2 \\ & X2 X0) \Rightarrow (\forall X3.(m1_group_2 X3 X0) \Rightarrow ((m1_group_2 X2 X3) \Rightarrow (r1_tarski \\ & (k2_group_11 X0 X1 X2) (k2_group_11 X0 X1 X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(k4_subset_1 X0 X1 X2 = k2_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(m1_subset_1 (k4_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge((m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\wedge(m1_group_2 X2 X0)))\Rightarrow(m1_subset_1 (k2_group_11 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (7)$$

Theorem 1

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(\forall X2.((v15_algstr_0 X2)\wedge((v1_group_3 X2 X0)\wedge(m1_group_2 X2 X0)))\Rightarrow(\forall X3.((v15_algstr_0 X3)\wedge((v1_group_3 X3 X0)\wedge(m1_group_2 X3 X0)))\Rightarrow(\exists X4.((v15_algstr_0 X4)\wedge((v1_group_3 X4 X0)\wedge(m1_group_2 X4 X0)))\wedge((u1_struct_0 X4 = k7_group_4 X0 X2 X3)\wedge(r1_tarski (k4_subset_1 (u1_struct_0 X0) (k2_group_11 X0 X1 X2) (k2_group_11 X0 X1 X3) (k2_group_11 X0 X1 X4))))))))))$$