

l69_group_4

(TMUqgFwwDJ1sZar9mHnWdLeVNmcwLie1CaQ)

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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 $k8_group_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $k5_group_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 (k2_xboole_0 X0 X1) \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ (m1_group_2 X2 X0) \Rightarrow ((r1_tarski (u1_struct_0 X1) (u1_struct_0 \\ X2)) \Rightarrow (m1_group_2 X1 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski \\ X1 X2)) \Rightarrow (r1_tarski X0 X2) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\ k2_xboole_0 X1 X2) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge \\ ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (m1_group_2 X1 X0)) \Rightarrow (m1_subset_1 \\ (k8_group_2 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \tag{5}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge \\ ((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))))\Rightarrow((v15_algstr_0 (k5_group_4 X0 X1))\wedge(m1_group_2 \\ (k5_group_4 X0 X1) X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(m1_subset_1 (k4_subset_1 \\ X0 X1 X2) (k1_zfmisc_1 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(\forall X2. \\ (m1_group_2 X2 X0)\Rightarrow(k8_group_4 X0 X1 X2 = k5_group_4 X0 (k4_subset_1 \\ (u1_struct_0 X0) (k8_group_2 X0 X1) (k8_group_2 X0 X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(k8_group_2 \\ X0 X1 = u1_struct_0 X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))\Rightarrow(\forall X2.((v15_algstr_0 X2)\wedge(m1_group_2 \\ X2 X0))\Rightarrow((X2 = k5_group_4 X0 X1)\Leftrightarrow((r1_tarski X1 (u1_struct_0 X2))\wedge \\ (\forall X3.((v15_algstr_0 X3)\wedge(m1_group_2 X3 X0))\Rightarrow((r1_tarski \\ X1 (u1_struct_0 X3))\Rightarrow(m1_group_2 X2 X3)))))))))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(\forall X2. \\ (m1_group_2 X2 X0)\Rightarrow(m1_group_2 X1 (k8_group_4 X0 X1 X2)))) \end{aligned}$$