

t54_group_4
(TMaq1qSugefAxEMkDddwDLXZkovjUKDFsSR)

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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 $v15_algstr_0 : \iota \Rightarrow o$ 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 $k8_group_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_group_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k5_group_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k1_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g3_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.((v15_algstr_0 X1) \wedge ((v1_group_3 \\ & X1 X0) \wedge (m1_group_2 X1 X0))) \Rightarrow (\forall X2.((v15_algstr_0 X2) \wedge (\\ & (v1_group_3 X2 X0) \wedge (m1_group_2 X2 X0))) \Rightarrow (u1_struct_0 (k8_group_4 \\ & X0 X1 X2) = k7_group_4 X0 X1 X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.((v15_algstr_0 X1) \wedge ((v1_group_3 \\ & X1 X0) \wedge (m1_group_2 X1 X0))) \Rightarrow (\forall X2.((v15_algstr_0 X2) \wedge (\\ & (v1_group_3 X2 X0) \wedge (m1_group_2 X2 X0))) \Rightarrow (\exists X3.((v15_algstr_0 \\ & X3) \wedge ((v1_group_3 X3 X0) \wedge (m1_group_2 X3 X0)) \wedge (u1_struct_0 X3 = \\ & k2_group_2 X0 (k8_group_2 X0 X1) (k8_group_2 X0 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge (l3_algstr_0 \\ & X0))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ & X1) \wedge (l3_algstr_0 X1)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v2_struct_0 X0)\wedge((v2_group_1 \\ X0)\wedge((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge((m1_group_2 X1 X0)\wedge \\ (m1_group_2 X2 X0))\Rightarrow((v15_algstr_0 (k8_group_4 X0 X1 X2))\wedge(m1_group_2 \\ (k8_group_4 X0 X1 X2) X0)) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(\forall X2. \\ (m1_group_2 X2 X0)\Rightarrow(k8_group_4 X0 X1 X2 = k5_group_4 X0 (k4_subset_1 \\ (u1_struct_0 X0) (k8_group_2 X0 X1) (k8_group_2 X0 X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(k8_group_2 \\ X0 X1 = u1_struct_0 X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(\forall X2. \\ (m1_group_2 X2 X0)\Rightarrow(k7_group_4 X0 X1 X2 = k2_group_2 X0 (k8_group_2 \\ X0 X1) (k8_group_2 X0 X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge(l3_algstr_0 \\ X0)))\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge(l3_algstr_0 \\ X1)))\Rightarrow((m1_group_2 X1 X0)\Leftrightarrow((r1_tarski (u1_struct_0 X1) (u1_struct_0 \\ X0))\wedge(u2_algstr_0 X1 = k1_realset1 (u2_algstr_0 X0) (u1_struct_0 \\ X1)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(k4_subset_1 X0 X1 X2 = \\ k4_subset_1 X0 X2 X1) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(l3_algstr_0 X0)\Rightarrow((v15_algstr_0 X0)\Rightarrow(X0 = g3_algstr_0 \\ (u1_struct_0 X0) (u2_algstr_0 X0))) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.((v15_algstr_0 X1) \wedge ((v1_group_3 \\ & X1 X0) \wedge (m1_group_2 X1 X0))) \Rightarrow (\forall X2.((v15_algstr_0 X2) \wedge (\\ & (v1_group_3 X2 X0) \wedge (m1_group_2 X2 X0))) \Rightarrow ((v1_group_3 (k8_group_4 \\ & X0 X1 X2) X0) \wedge (m1_group_2 (k8_group_4 X0 X1 X2) X0)))) \end{aligned}$$