

t51_group_4
(TMN5aoAw1EtXQKdUDisYXCGTqwZp7gW9UFG)

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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 $k7_group_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k8_group_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $r1_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_group_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\
& X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow (\forall X2. \\
& (m1_group_2 X2 X0) \Rightarrow ((\neg (k2_group_2 X0 (k8_group_2 X0 X1) (k8_group_2 \\
& X0 X2) = k2_group_2 X0 (k8_group_2 X0 X2) (k8_group_2 X0 X1)) \wedge (\forall X3. \\
& ((v15_algstr_0 X3) \wedge (m1_group_2 X3 X0)) \Rightarrow (u1_struct_0 X3 \neq k2_group_2 \\
& X0 (k8_group_2 X0 X1) (k8_group_2 X0 X2)))) \wedge ((\exists X3. (m1_group_2 \\
& X3 X0) \wedge (u1_struct_0 X3 = k2_group_2 X0 (k8_group_2 X0 X1) (k8_group_2 \\
& X0 X2)))) \Rightarrow (k2_group_2 X0 (k8_group_2 X0 X1) (k8_group_2 X0 X2) = k2_group_2 \\
& X0 (k8_group_2 X0 X2) (k8_group_2 X0 X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\
& X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow (\forall X2. \\
& (m1_group_2 X2 X0) \Rightarrow (r1_group_2 X0 (k8_group_4 X0 X1 X2) (k5_group_4 \\
& X0 (k7_group_4 X0 X1 X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1_group_2 X2 X0) \Rightarrow ((k7_group_4 X0 X1 X2 = k2_group_2 X0 (k8_group_2 \\ & X0 X1) (k8_group_2 X0 X2)) \wedge ((k7_group_4 X0 X1 X2 = k12_group_2 X0 \\ & X1 (k8_group_2 X0 X2)) \wedge (k7_group_4 X0 X1 X2 = k11_group_2 X0 X2 (k8_group_2 \\ & X0 X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.((v15_algstr_0 X1) \wedge (m1_group_2 \\ & X1 X0)) \Rightarrow (r1_group_2 X0 (k5_group_4 X0 (k8_group_2 X0 X1)) X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (((v15_algstr_0 X1) \wedge \\ & (m1_group_2 X1 X0)) \wedge ((v15_algstr_0 X2) \wedge (m1_group_2 X2 X0)))) \Rightarrow \\ & ((r1_group_2 X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((m1_group_2 X1 X0) \wedge \\ & (m1_group_2 X2 X0))) \Rightarrow ((v15_algstr_0 (k8_group_4 X0 X1 X2)) \wedge (m1_group_2 \\ & (k8_group_4 X0 X1 X2) X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((m1_group_2 X1 X0) \wedge \\ & (m1_group_2 X2 X0))) \Rightarrow (m1_subset_1 (k7_group_4 X0 X1 X2) (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow ((v15_algstr_0 (k5_group_4 X0 X1)) \wedge (m1_group_2 \\ & (k5_group_4 X0 X1) X0)) \end{aligned} \quad (8)$$

Assume the following.

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

Theorem 1

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