

t47_group_9
(TMQn6PGHY8r3fvxfBR96n7Kb3zqBucYufHe)

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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 $v3_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_group_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $m1_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v2_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ & \forall X2. (m1_group_9 X2 X0 X1) \Rightarrow ((\neg v2_struct_0 X2) \wedge ((v2_group_1 \\ & X2) \wedge ((v3_group_1 X2) \wedge ((v3_group_9 X2 X0) \wedge (l1_group_9 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l3_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (l1_group_9 X1 X0) \Rightarrow (l3_algstr_0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\
& X1) \wedge ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (\\
& l1_group_9 X1 X0)))))) \wedge (((\neg v2_struct_0 X2) \wedge ((v2_group_1 X2) \wedge \\
& ((v3_group_1 X2) \wedge ((v3_group_9 X2 X0) \wedge (l1_group_9 X2 X0)))))) \wedge \\
& ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 \\
& X2)) \wedge ((v1_group_6 X3 X1 X2) \wedge ((v7_group_9 X3 X0 X1 X2) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)))))))))) \Rightarrow \\
& ((v2_group_9 (k13_group_9 X0 X1 X2 X3) X0) \wedge (m1_group_9 (k13_group_9 \\
& X0 X1 X2 X3) X0 X1))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. (l1_struct_0 X0) \Rightarrow (\forall X1. (r1_struct_0 X0 X1) \Leftrightarrow (X1 \in u1_struct_0 X0)) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\
& v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \Rightarrow (\\
& \forall X2. (((\neg v2_struct_0 X2) \wedge ((v2_group_1 X2) \wedge ((v3_group_1 \\
& X2) \wedge ((v3_group_9 X2 X0) \wedge (l1_group_9 X2 X0)))))) \Rightarrow (\forall X3. (\\
& (v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 \\
& X2)) \wedge ((v1_group_6 X3 X1 X2) \wedge ((v7_group_9 X3 X0 X1 X2) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)))))))))) \Rightarrow \\
& (\forall X4. ((v2_group_9 X4 X0) \wedge (m1_group_9 X4 X0 X1)) \Rightarrow ((X4 = k13_group_9 \\
& X0 X1 X2 X3) \Leftrightarrow (u1_struct_0 X4 = ReplSep (toset (\lambda X5 : \iota. m1_subset_1 \\
& X5 (u1_struct_0 X1))) (\lambda X5 : \iota. k3_funct_2 (u1_struct_0 X1) \\
& (u1_struct_0 X2) X3 X5 = k1_group_1 X2) (\lambda X5 : \iota. X5))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\
& v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \Rightarrow (\\
& \forall X2. (((\neg v2_struct_0 X2) \wedge ((v2_group_1 X2) \wedge ((v3_group_1 \\
& X2) \wedge ((v3_group_9 X2 X0) \wedge (l1_group_9 X2 X0)))))) \Rightarrow (\forall X3. (\\
& m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge \\
& ((v1_funct_2 X4 (u1_struct_0 X1) (u1_struct_0 X2)) \wedge ((v1_group_6 \\
& X4 X1 X2) \wedge ((v7_group_9 X4 X0 X1 X2) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)))))))))) \Rightarrow ((r1_struct_0 \\
& (k13_group_9 X0 X1 X2 X4) X3) \Leftrightarrow (k3_funct_2 (u1_struct_0 X1) (u1_struct_0 \\
& X2) X4 X3 = k1_group_1 X2))))
\end{aligned}$$