

t56_group_9
(TMZsaTgZHurs3fLKSSDKjohGtyXcQcA9Sb9)

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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 $v2_group_9 : \iota \Rightarrow \iota \Rightarrow o$ 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 $r3_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_group_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ & v3_funct_2 (k12_group_9 X0 X1 (k4_group_9 X0 X1)) (u1_struct_0 \\ & X1) (u1_struct_0 (k10_group_9 X0 X1 (k4_group_9 X0 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ & X1) \wedge ((v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \wedge \\ & ((\neg v2_struct_0 X2) \wedge ((v2_group_1 X2) \wedge ((v3_group_1 X2) \wedge ((v3_group_9 \\ & X2 X0) \wedge (l1_group_9 X2 X0)))))) \Rightarrow ((r3_group_9 X0 X1 X2) \Leftrightarrow (r2_group_9 \\ & X0 X1 X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ & X1) \wedge ((v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \wedge \\ & ((v4_group_9 X2 X0 X1) \wedge (m1_group_9 X2 X0 X1))) \Rightarrow ((v2_group_1 (k10_group_9 \\ & X0 X1 X2)) \wedge ((v3_group_1 (k10_group_9 X0 X1 X2)) \wedge (v3_group_9 (k10_group_9 \\ & X0 X1 X2) X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ & X1) \wedge ((v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \wedge \\ & ((v4_group_9 X2 X0 X1) \wedge (m1_group_9 X2 X0 X1))) \Rightarrow (\neg v2_struct_0 (\\ & k10_group_9 X0 X1 X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \Rightarrow (\\ & (v2_group_9 (k4_group_9 X0 X1) X0) \wedge (v4_group_9 (k4_group_9 X0 \\ & X1) X0 X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \Rightarrow (\\ & (v2_group_9 (k4_group_9 X0 X1) X0) \wedge (m1_group_9 (k4_group_9 X0 \\ & X1) X0 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ & X1) \wedge ((v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \wedge \\ & ((v4_group_9 X2 X0 X1) \wedge (m1_group_9 X2 X0 X1))) \Rightarrow ((v1_funct_1 (k12_group_9 \\ & X0 X1 X2)) \wedge ((v1_funct_2 (k12_group_9 X0 X1 X2) (u1_struct_0 X1) \\ & (u1_struct_0 (k10_group_9 X0 X1 X2))) \wedge ((v1_group_6 (k12_group_9 \\ & X0 X1 X2) X1 (k10_group_9 X0 X1 X2)) \wedge ((v7_group_9 (k12_group_9 X0 \\ & X1 X2) X0 X1 (k10_group_9 X0 X1 X2)) \wedge (m1_subset_1 (k12_group_9 X0 \\ & X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ & (k10_group_9 X0 X1 X2)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ & X1) \wedge ((v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \wedge \\ & ((v4_group_9 X2 X0 X1) \wedge (m1_group_9 X2 X0 X1))) \Rightarrow (l1_group_9 (k10_group_9 \\ & X0 X1 X2) X0) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\
& (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\
& \quad \forall X2. ((\neg v2_struct_0 X2) \wedge ((v2_group_1 X2) \wedge ((v3_group_1 \\
& X2) \wedge ((v3_group_9 X2 X0) \wedge (l1_group_9 X2 X0)))))) \Rightarrow ((r2_group_9 \\
& X0 X1 X2) \Leftrightarrow (\exists X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 \\
& X1) (u1_struct_0 X2)) \wedge ((v1_group_6 X3 X1 X2) \wedge ((v7_group_9 X3 X0 \\
& X1 X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\
& X1) (u1_struct_0 X2)))))) \wedge (v3_funct_2 X3 (u1_struct_0 X1) (\\
& \quad u1_struct_0 X2))))))
\end{aligned} \tag{9}$$

Theorem 1

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\
& (v3_group_1 X1) \wedge ((v2_group_9 X1 X0) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 \\
& X1 X0)))))) \Rightarrow (r3_group_9 X0 X1 (k10_group_9 X0 X1 (k4_group_9 X0 \\
& \quad X1)))
\end{aligned}$$