

t53_group_9

(TMQH2SBMZ64wgMxJNw9WrnaFwFuACmUYfNV)

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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 $v4_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k10_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_group_9 : \iota \Rightarrow \iota \Rightarrow o$ 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. Let $k14_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\
 & \quad \forall X2. ((\neg v2_struct_0 X2) \wedge ((v2_group_1 X2) \wedge ((v3_group_1 X2) \wedge ((v3_group_9 X2 X0) \wedge (v2_group_9 X2 X0) \wedge (l1_group_9 X2 X0)))))) \Rightarrow (\\
 & \quad \quad \forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 X2)) \wedge ((v1_group_6 X3 X1 X2) \wedge ((v7_group_9 X3 X0 X1 X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)))))))))) \Rightarrow ((v2_funct_2 X3 (u1_struct_0 X2)) \Leftrightarrow (k14_group_9 X0 X1 X2 X3 = X2)))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\
 & \quad \forall X2. ((v4_group_9 X2 X0 X1) \wedge (m1_group_9 X2 X0 X1)) \Rightarrow (k14_group_9 X0 X1 (k10_group_9 X0 X1 X2) (k12_group_9 X0 X1 X2) = k10_group_9 X0 X1 X2))
 \end{aligned}
 \tag{2}$$

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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X1)\wedge((v2_group_1 X1)\wedge((v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(\\ & l1_group_9 X1 X0))))))\wedge(((\neg v2_struct_0 X2)\wedge((v2_group_1 X2)\wedge \\ & ((v3_group_1 X2)\wedge((v3_group_9 X2 X0)\wedge(l1_group_9 X2 X0))))))\wedge \\ & ((v1_funct_1 X3)\wedge((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 \\ & X2))\wedge((v1_group_6 X3 X1 X2)\wedge((v7_group_9 X3 X0 X1 X2)\wedge(m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2))))))))))\Rightarrow \\ & ((v2_group_9 (k14_group_9 X0 X1 X2 X3) X0)\wedge(m1_group_9 (k14_group_9 \\ & X0 X1 X2 X3) X0 X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X1)\wedge((v2_group_1 \\ & X1)\wedge((v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))))\wedge \\ & ((v4_group_9 X2 X0 X1)\wedge(m1_group_9 X2 X0 X1))\Rightarrow((v1_funct_1 (k12_group_9 \\ & X0 X1 X2))\wedge((v1_funct_2 (k12_group_9 X0 X1 X2) (u1_struct_0 X1) \\ & (u1_struct_0 (k10_group_9 X0 X1 X2))))\wedge((v1_group_6 (k12_group_9 \\ & X0 X1 X2) X1 (k10_group_9 X0 X1 X2))\wedge((v7_group_9 (k12_group_9 X0 \\ & X1 X2) X0 X1 (k10_group_9 X0 X1 X2))\wedge(m1_subset_1 (k12_group_9 X0 \\ & X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ & (k10_group_9 X0 X1 X2)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X1)\wedge((v2_group_1 \\ & X1)\wedge((v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))))\wedge \\ & ((v4_group_9 X2 X0 X1)\wedge(m1_group_9 X2 X0 X1))\Rightarrow(l1_group_9 (k10_group_9 \\ & X0 X1 X2) X0) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge (v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge (v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0))) \Rightarrow (\\ \forall X2. & ((v4_group_9 X2 X0 X1) \wedge (m1_group_9 X2 X0 X1)) \Rightarrow (v2_funct_2 \\ & (k12_group_9 X0 X1 X2) (u1_struct_0 (k10_group_9 X0 X1 X2)))) \end{aligned}$$