

t33_group_9

(TMZ87a4ByWJ9cpTwEnPHTBZtsKLXDPg2Qei)

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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 $v2_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k19_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_group_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k18_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (r1_tarski (k1_tarski X0) X1) \Leftrightarrow (X0 \in X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ \forall X2. & ((v2_group_9 X2 X0) \wedge (m1_group_9 X2 X0 X1)) \Rightarrow (k18_group_9 \\ & X0 X1 (k15_group_9 X0 X1 X2) = X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k2_xboole_0 X0 X1 = X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 \\ & X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\ & k2_xboole_0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ \forall X2. & (m1_group_9 X2 X0 X1) \Rightarrow (r1_struct_0 X2 (k1_group_1 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.(m1_group_9 X2 X0 X1)\Rightarrow((\neg v2_struct_0 X2)\wedge((v2_group_1 \\ & X2)\wedge((v3_group_1 X2)\wedge((v3_group_9 X2 X0)\wedge(l1_group_9 X2 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0)\Rightarrow(l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(l1_group_9 X1 X0)\Rightarrow(l3_algstr_0 X1) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & (v2_group_9 (k4_group_9 X0 X1) X0)\wedge(m1_group_9 (k4_group_9 X0 \\ & X1) X0 X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X1)\wedge((v2_group_1 \\ & X1)\wedge((v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\wedge \\ & (m1_group_9 X2 X0 X1))\Rightarrow(m1_subset_1 (k15_group_9 X0 X1 X2) (k1_zfmisc_1 \\ & (u1_struct_0 X1))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.((v2_group_9 X2 X0)\wedge(m1_group_9 X2 X0 X1))\Rightarrow((X2 = k4_group_9 \\ & X0 X1)\Leftrightarrow(u1_struct_0 X2 = k1_tarski (k1_group_1 X1)))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(\forall X1.(r1_struct_0 X0 X1)\Leftrightarrow (X1 \in u1_struct_0 X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.(m1_group_9 X2 X0 X1)\Rightarrow(\forall X3.(m1_group_9 X3 X0 \\ & X1)\Rightarrow(k19_group_9 X0 X1 X2 X3 = k18_group_9 X0 X1 (k4_subset_1 (u1_struct_0 \\ & X1) (k15_group_9 X0 X1 X2) (k15_group_9 X0 X1 X3)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.(m1_group_9 X2 X0 X1)\Rightarrow(k15_group_9 X0 X1 X2 = u1_struct_0 \\ & X2)) \end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \tag{15}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v2_group_1 X1)\wedge \\ & (v3_group_1 X1)\wedge((v3_group_9 X1 X0)\wedge(l1_group_9 X1 X0))))\Rightarrow(\\ & \forall X2.((v2_group_9 X2 X0)\wedge(m1_group_9 X2 X0 X1))\Rightarrow((k19_group_9 \\ & X0 X1 (k4_group_9 X0 X1) X2 = X2)\wedge(k19_group_9 X0 X1 X2 (k4_group_9 \\ & X0 X1) = X2))) \end{aligned}$$