

t12_endalg
(TMGf7HTTPn1bGz1omfLB2L58zySyPWX1WrY)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_unialg_1 : \iota \Rightarrow o$ be given. Let $v3_unialg_1 : \iota \Rightarrow o$ be given. Let $v4_unialg_1 : \iota \Rightarrow o$ be given. Let $l1_unialg_1 : \iota \Rightarrow o$ be given. Let $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_endalg : \iota \Rightarrow \iota$ be given. Let $m2_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k6_msualg_1 : \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_msualg_1 : \iota \Rightarrow \iota$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $v3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_msuhom_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v13_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $v5_msualg_1 : \iota \Rightarrow o$ be given. Let $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l5_struct_0 : \iota \Rightarrow o$ be given. Let $k2_msuhom_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v1_msualg_1 \\ X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1. ((v3_msualg_1 X1 X0) \wedge ((\\ v4_msualg_1 X1 X0) \wedge (l3_msualg_1 X1 X0))) \Rightarrow (X1 = k1_msuhom_1 X0 X0 \\ X1)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v3_msualg_1 (\\ k9_msualg_1 X0) (k6_msualg_1 X0)) \wedge (v4_msualg_1 (k9_msualg_1 \\ X0) (k6_msualg_1 X0))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 \\ (u1_struct_0 X0)) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v7_struct_0 (k6_msualg_1 X0)) \wedge ((\neg v11_struct_0 (k6_msualg_1 X0)) \wedge ((v13_struct_0 (k6_msualg_1 X0) np_1) \wedge ((v1_msualg_1 (k6_msualg_1 X0)) \wedge (v5_msualg_1 (k6_msualg_1 X0))))))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X1) \wedge (m1_funct_2 X2 X0 X1)) \Rightarrow (\forall X3. (m2_funct_2 X3 X0 X1 X2) \Rightarrow ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \quad (5)$$

Assume the following.

$$\forall X0. (l5_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0. (l1_unialg_1 X0) \Rightarrow (l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\forall X0. (l1_msualg_1 X0) \Rightarrow (l5_struct_0 X0) \quad (8)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v3_msualg_1 (k9_msualg_1 X0) (k6_msualg_1 X0)) \wedge (l3_msualg_1 (k9_msualg_1 X0) (k6_msualg_1 X0))) \quad (9)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v7_struct_0 (k6_msualg_1 X0)) \wedge ((\neg v11_struct_0 (k6_msualg_1 X0)) \wedge ((v1_msualg_1 (k6_msualg_1 X0)) \wedge ((v5_msualg_1 (k6_msualg_1 X0)) \wedge (l1_msualg_1 (k6_msualg_1 X0))))))) \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v2_unialg_1 \\
& X0) \wedge (v3_unialg_1 X0) \wedge (v4_unialg_1 X0) \wedge (l1_unialg_1 X0))) \wedge \\
& (((\neg v2_struct_0 X1) \wedge (v2_unialg_1 X1) \wedge (v3_unialg_1 X1) \wedge (\\
& v4_unialg_1 X1) \wedge (l1_unialg_1 X1)))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (m2_pboole \\
& (k2_msuhom_1 X0 X1 X2) (u1_struct_0 (k6_msualg_1 X0)) (u3_msualg_1 \\
& (k6_msualg_1 X0) (k9_msualg_1 X0)) (u3_msualg_1 (k6_msualg_1 \\
& X0) (k1_msuhom_1 (k6_msualg_1 X0) (k6_msualg_1 X1) (k9_msualg_1 \\
& X1))))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_unialg_1 X0) \wedge (v3_unialg_1 \\
& X0) \wedge (v4_unialg_1 X0) \wedge (l1_unialg_1 X0))) \Rightarrow (m1_funct_2 (k1_endalg \\
& X0) (u1_struct_0 X0) (u1_struct_0 X0))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_unialg_1 X0) \wedge (v3_unialg_1 \\
& X0) \wedge (v4_unialg_1 X0) \wedge (l1_unialg_1 X0))) \Rightarrow (\forall X1. ((\neg \\
& v2_struct_0 X1) \wedge (v2_unialg_1 X1) \wedge (v3_unialg_1 X1) \wedge (v4_unialg_1 \\
& X1) \wedge (l1_unialg_1 X1))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow ((k6_msualg_1 \\
& X0 = k6_msualg_1 X1) \Rightarrow (k2_msuhom_1 X0 X1 X2 = k16_funcop_1 k6_numbers \\
& X2)))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (l1_struct_0 X0) \Rightarrow ((v13_struct_0 X0 np_1) \Rightarrow ((\neg v2_struct_0 \\
& X0) \wedge (v7_struct_0 X0)))
\end{aligned} \tag{14}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_unialg_1 X0) \wedge (v3_unialg_1 \\
& X0) \wedge (v4_unialg_1 X0) \wedge (l1_unialg_1 X0))) \Rightarrow (\forall X1. (m2_funct_2 \\
& X1 (u1_struct_0 X0) (u1_struct_0 X0) (k1_endalg X0)) \Rightarrow (m2_pboole \\
& (k16_funcop_1 k6_numbers X1) (u1_struct_0 (k6_msualg_1 X0)) (\\
& u3_msualg_1 (k6_msualg_1 X0) (k9_msualg_1 X0)) (u3_msualg_1 (\\
& k6_msualg_1 X0) (k9_msualg_1 X0))))
\end{aligned}$$