

t16_endalg

(TMb6rNUrd9KrdFnDJLtW5G25PgZYctGeHwA)

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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 $r1_endalg : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_endalg : \iota \Rightarrow \iota$ be given. Let $k6_endalg : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_msualg_1 : \iota \Rightarrow \iota$ be given. Let $k9_msualg_1 : \iota \Rightarrow \iota$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v6_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_group_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_endalg : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ 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 $v22_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $v5_msualg_1 : \iota \Rightarrow o$ be given. Let $l5_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\
 & X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1. ((v1_funct_1 \\
 & X1) \wedge ((v1_funct_2 X1 (u1_struct_0 (k3_endalg X0)) (u1_struct_0 \\
 & (k6_endalg (k6_msualg_1 X0) (k9_msualg_1 X0)))) \wedge ((v6_group_1 \\
 & X1 (k3_endalg X0) (k6_endalg (k6_msualg_1 X0) (k9_msualg_1 X0))) \wedge \\
 & ((v1_group_6 X1 (k3_endalg X0) (k6_endalg (k6_msualg_1 X0) (k9_msualg_1 \\
 & X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\
 & (k3_endalg X0)) (u1_struct_0 (k6_endalg (k6_msualg_1 X0) (k9_msualg_1 \\
 & X0)))))))))) \Rightarrow ((\forall X2. (X2 \in k1_endalg X0) \Rightarrow (k1_funct_1 X1 \\
 & X2 = k16_funcop_1 k6_numbers X2)) \Rightarrow (v3_funct_2 X1 (u1_struct_0 \\
 & (k3_endalg X0)) (u1_struct_0 (k6_endalg (k6_msualg_1 X0) (k9_msualg_1 \\
 & X0))))))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\
& X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1.((v1_relat_1 \\
& X1) \wedge (v1_funct_1 X1)) \Rightarrow (((k9_xtuple_0 X1 = k1_endalg X0) \wedge (\forall X2. \\
& (X2 \in k1_endalg X0) \Rightarrow (k1_funct_1 X1 X2 = k16_funcop_1 k6_numbers \\
& X2))) \Rightarrow ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 (k3_endalg \\
& X0)) (u1_struct_0 (k6_endalg (k6_msualg_1 X0) (k9_msualg_1 X0)))) \wedge \\
& ((v6_group_1 X1 (k3_endalg X0) (k6_endalg (k6_msualg_1 X0) (k9_msualg_1 \\
& X0))) \wedge ((v1_group_6 X1 (k3_endalg X0) (k6_endalg (k6_msualg_1 \\
& X0) (k9_msualg_1 X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 (k3_endalg X0)) (u1_struct_0 (k6_endalg (k6_msualg_1 \\
& X0) (k9_msualg_1 X0))))))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0 : \iota \Rightarrow \iota. \forall X1. \exists X2. ((v1_relat_1 X2) \wedge (\\
& v1_funct_1 X2)) \wedge ((k9_xtuple_0 X2 = X1) \wedge (\forall X3. (X3 \in X1) \Rightarrow (\\
& k1_funct_1 X2 X3 = X0 X3)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge \\
& (l1_msualg_1 X0))) \wedge ((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 X1 X0))) \Rightarrow \\
& ((v22_algstr_0 (k6_endalg X0 X1)) \wedge ((v3_group_1 (k6_endalg X0 \\
& X1)) \wedge (v4_vectsp_1 (k6_endalg X0 X1))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\
& X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v3_msualg_1 (\\
& k9_msualg_1 X0) (k6_msualg_1 X0)) \wedge (v4_msualg_1 (k9_msualg_1 \\
& X0) (k6_msualg_1 X0)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge \\
& (l1_msualg_1 X0))) \wedge ((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 X1 X0))) \Rightarrow \\
& ((\neg v2_struct_0 (k6_endalg X0 X1)) \wedge (v22_algstr_0 (k6_endalg X0 \\
& X1)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\
& X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v7_struct_0 (\\
& k6_msualg_1 X0) \wedge ((\neg v11_struct_0 (k6_msualg_1 X0)) \wedge ((v13_struct_0 \\
& (k6_msualg_1 X0) np_1) \wedge ((v1_msualg_1 (k6_msualg_1 X0) \wedge (v5_msualg_1 \\
& (k6_msualg_1 X0))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow ((v22_algstr_0 (k3_endalg X0)) \wedge ((v3_group_1 (k3_endalg X0)) \wedge (v4_vectsp_1 (k3_endalg X0)))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow ((\neg v2_struct_0 (k3_endalg X0)) \wedge (v22_algstr_0 (k3_endalg X0))) \quad (9)$$

Assume the following.

$$\forall X0.(l5_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(l1_msualg_1 X0) \Rightarrow (l5_struct_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow ((v3_msualg_1 (k9_msualg_1 X0) (k6_msualg_1 X0)) \wedge (l3_msualg_1 (k9_msualg_1 X0) (k6_msualg_1 X0))) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow ((v7_struct_0 (k6_msualg_1 X0)) \wedge ((\neg v11_struct_0 (k6_msualg_1 X0)) \wedge ((v1_msualg_1 (k6_msualg_1 X0)) \wedge ((v5_msualg_1 (k6_msualg_1 X0)) \wedge (l1_msualg_1 (k6_msualg_1 X0))))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 X0))) \wedge ((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 X1 X0))) \Rightarrow ((v22_algstr_0 (k6_endalg X0 X1)) \wedge (l4_algstr_0 (k6_endalg X0 X1))) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow ((v22_algstr_0 (k3_endalg X0)) \wedge (l4_algstr_0 (k3_endalg X0))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v4_vectsp_1 X0) \wedge (l4_algstr_0 X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v4_vectsp_1 X1) \wedge (l4_algstr_0 X1)))) \Rightarrow ((r1_endalg X0 X1) \Leftrightarrow (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v6_group_1 X2 X0 X1) \wedge (v1_group_6 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \wedge (v3_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((v13_struct_0 X0 np_1) \Rightarrow ((\neg v2_struct_0 X0) \wedge (v7_struct_0 X0))) \quad (18)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow (r1_endalg (k3_endalg X0) (k6_endalg (k6_msualg_1 X0) (k9_msualg_1 X0)))$$