

t1_freealg (TMQJP-
KGg3RbRMUJvq8yLuSqS9HeP4F4Ybaa)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_unialg_1 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_unialg_2 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m1_freealg : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_unialg_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_unialg_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow (m1_unialg_2 X0 X0) \quad (1)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow (\forall X1.((v1_unialg_1 X1) \wedge (m1_unialg_2 X1 X0)) \Rightarrow (\forall X2.((v1_unialg_1 X2) \wedge (m1_unialg_2 X2 X0)) \Rightarrow ((u1_struct_0 X1 = u1_struct_0 X2) \Rightarrow (X1 = X2)))) \quad (2)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((\neg (X1 = k1_xboole_0)) \wedge (k6_unialg_2 X0 = k1_xboole_0)) \Rightarrow ((m1_freealg X1 X0) \Leftrightarrow (u1_struct_0 (k7_unialg_2 X0 X1) = u1_struct_0 X0)))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1.(((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0))))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_unialg_1 (k7_unialg_2 X0 X1)) \wedge (m1_unialg_2 (k7_unialg_2 X0 X1) X0)) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_unialg_1 X0) \wedge ((v2_unialg_1 \\ & X0) \wedge ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow \\ & (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\ & ((\neg (k6_unialg_2 X0 = k1_xboole_0) \wedge (X1 = k1_xboole_0)) \Rightarrow ((m1_freealg \\ & X1 X0) \Leftrightarrow (k7_unialg_2 X0 X1 = X0)))) \end{aligned}$$