

t8_unialg_3 (TMGwdTaFXKvPGSDkQDvyWpn- vaqBaswu6i8p)

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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 $v1_unialg_1 : \iota \Rightarrow o$ be given. Let $m1_unialg_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_unialg_3 : \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_unialg_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_unialg_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_unialg_3 : \iota \Rightarrow \iota$ be given. Let $k9_unialg_2 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge \\ & ((v3_unialg_1 X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \wedge \\ & (\neg v1_xboole_0 X1) \wedge (m1_unialg_3 X1 X0)) \Rightarrow (\forall X2. (m2_unialg_3 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ & X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (k1_unialg_3 X0 = \\ & k9_unialg_2 X0) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1.(m1_unialg_2 \\ X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v2_unialg_1 X1) \wedge ((v3_unialg_1 X1) \wedge \\ ((v4_unialg_1 X1) \wedge (l1_unialg_1 X1))))))) \end{aligned} \quad (6)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((v1_funct_1 (k3_unialg_3 \\ X0)) \wedge ((v1_funct_2 (k3_unialg_3 X0) (k1_unialg_3 X0) (k9_setfam_1 \\ (u1_struct_0 X0))) \wedge (m1_subset_1 (k3_unialg_3 X0) (k1_zfmisc_1 \\ (k2_zfmisc_1 (k1_unialg_3 X0) (k9_setfam_1 (u1_struct_0 X0))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow ((\neg v1_xboole_0 \\ (k1_unialg_3 X0)) \wedge (m1_unialg_3 (k1_unialg_3 X0) X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(r1_struct_0 X0 X1) \Leftrightarrow (X1 \in u1_struct_0 X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1.((v1_funct_1 \\ X1) \wedge ((v1_funct_2 X1 (k1_unialg_3 X0) (k9_setfam_1 (u1_struct_0 \\ X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k1_unialg_3 \\ X0) (k9_setfam_1 (u1_struct_0 X0))))))) \Rightarrow ((X1 = k3_unialg_3 X0) \Leftrightarrow \\ (\forall X2.(m2_unialg_3 X2 X0 (k1_unialg_3 X0)) \Rightarrow (\forall X3. \\ (m1_unialg_2 X3 X0) \Rightarrow ((X2 = X3) \Rightarrow (k3_funct_2 (k1_unialg_3 X0) (k9_setfam_1 \\ (u1_struct_0 X0)) X1 X2 = u1_struct_0 X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))))) \Rightarrow (\forall X1.(X1 = \\ k9_unialg_2 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow ((v1_unialg_1 X2) \wedge (m1_unialg_2 \\ X2 X0)))) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (v2_unialg_1 X0) \wedge ((v3_unialg_1 \\ & X0) \wedge ((v4_unialg_1 X0) \wedge (l1_unialg_1 X0)))) \Rightarrow (\forall X1.((v1_unialg_1 \\ & X1) \wedge (m1_unialg_2 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow ((X2 \in k1_funct_1 (k3_unialg_3 X0) X1) \Leftrightarrow (r1_struct_0 X1 X2)))) \end{aligned}$$