

t46_tmap_1
(TMbbSQA9ZZobVwZejCtqikseejBYFA4oo3h)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc X1)))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_tmap_1 X0 X1 X2 X3) \Leftrightarrow (\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (\neg(v3_pre_topc X4 X1) \wedge ((k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3 \in X4) \wedge (\forall X5.(m1_subset_1 X5 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\neg(v3_pre_topc X5 X0) \wedge ((X3 \in X5) \wedge (r1_tarski (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X5) X4)))))))))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
& ((\neg v1_xboole_0 X1) \wedge (\neg v1_xboole_0 X3) \wedge ((v1_funct_1 X4) \wedge (v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow ((r1_funct_2 X0 X1 X2 X3 X4 X5) \Leftrightarrow (X4 = X5))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \tag{5}$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_pre_topc X1 X0) \Leftrightarrow (X1 \in u1_pre_topc X0))) \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc X1)))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v2_pre_topc X2) \wedge (l1_pre_topc X2)))) \Rightarrow (((u1_struct_0 X0 = u1_struct_0 X1) \wedge (r1_tarski (u1_pre_topc X1) (u1_pre_topc X0))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X0) (u1_struct_0 X2)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X2)))))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (u1_struct_0 X1) (u1_struct_0 X2)) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)))))) \Rightarrow ((r1_funct_2 (u1_struct_0 X0) (u1_struct_0 X2) (u1_struct_0 X1) (u1_struct_0 X2) X3 X4) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\forall X6. (m1_subset_1 X6 (u1_struct_0 X1)) \Rightarrow (((X5 = X6) \wedge (r1_tmap_1 X1 X2 X4 X6)) \Rightarrow (r1_tmap_1 X0 X2 X3 X5))))))))))
\end{aligned}$$