

t39_tmap_1 (TMXdtZAS- JAKrKkPvn1JpJ8PQkDqzuZTikBM)

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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 $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_tsep_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tsep_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \forall X2. ((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow ((\neg r1_tsep_1 \\ & X1 X2) \Rightarrow ((m1_pre_topc (k2_tsep_1 X0 X1 X2) X1) \wedge (m1_pre_topc (k2_tsep_1 \\ & X0 X1 X2) X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_pre_topc X1 X0) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow \\ & ((v3_pre_topc X2 X1) \Leftrightarrow (\exists X3. (m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \wedge ((v3_pre_topc X3 X0) \wedge (k9_subset_1 (u1_struct_0 \\ & X1) X3 (k2_struct_0 X1) = X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_pre_topc X1 X0) \Rightarrow (m1_subset_1 (u1_struct_0 X1) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1. \\ & (m1_pre_topc\ X1\ X0) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (u1_struct_0\ X0))) \Rightarrow ((X2 = u1_struct_0\ X1) \Rightarrow (((v1_tsep_1\ X1\ X0) \wedge \\ & (m1_pre_topc\ X1\ X0)) \Leftrightarrow (v3_pre_topc\ X2\ X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski\ X0\ X0 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1\ X2\ (k1_zfmisc_1 \\ & X0)) \Rightarrow (k9_subset_1\ X0\ X1\ X2 = k3_xboole_0\ X1\ X2) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_pre_topc\ X0) \Rightarrow (\forall X1. (m1_pre_topc\ X1\ X0) \Rightarrow \\ & (l1_pre_topc\ X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (l1_pre_topc\ X0) \Rightarrow (l1_struct_0\ X0) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0\ X0) \wedge (l1_pre_topc \\ & X0)) \wedge (((\neg v2_struct_0\ X1) \wedge (m1_pre_topc\ X1\ X0)) \wedge ((\neg v2_struct_0 \\ & X2) \wedge (m1_pre_topc\ X2\ X0)))) \Rightarrow ((\neg v2_struct_0\ (k2_tsep_1\ X0\ X1\ X2)) \wedge \\ & ((v1_pre_topc\ (k2_tsep_1\ X0\ X1\ X2)) \wedge (m1_pre_topc\ (k2_tsep_1\ X0 \\ & X1\ X2)\ X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0\ X1) \wedge (m1_pre_topc\ X1\ X0)) \Rightarrow (\forall X2. ((\neg v2_struct_0 \\ & X2) \wedge (m1_pre_topc\ X2\ X0)) \Rightarrow ((\neg r1_tsep_1\ X1\ X2) \Rightarrow (\forall X3. ((\neg \\ & v2_struct_0\ X3) \wedge ((v1_pre_topc\ X3) \wedge (m1_pre_topc\ X3\ X0))) \Rightarrow ((X3 = \\ & k2_tsep_1\ X0\ X1\ X2) \Leftrightarrow (u1_struct_0\ X3 = k3_xboole_0\ (u1_struct_0 \\ & X1)\ (u1_struct_0\ X2)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. (l1_struct_0\ X0) \Rightarrow (k2_struct_0\ X0 = u1_struct_0\ X0) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1. \\ & (m1_pre_topc\ X1\ X0) \Rightarrow (v2_pre_topc\ X1)) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \forall X2.((\neg v2_struct_0 X2) \wedge ((v1_tsep_1 X2 X0) \wedge (m1_pre_topc \\ & X2 X0))) \Rightarrow ((\neg r1_tsep_1 X2 X1) \Rightarrow ((v1_tsep_1 (k2_tsep_1 X0 X2 X1) X1) \wedge \\ & (m1_pre_topc (k2_tsep_1 X0 X2 X1) X1)))))) \end{aligned}$$