

t110_tmap_1 (TMXW- GAYR4phuzqYMYpSC8MvawHNZhuhqDQp)

October 27, 2020

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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k8_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_pre_topc X1 X0) \Rightarrow (m1_subset_1 (u1_struct_0 X1) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (2)$$

Assume the following.

$$\forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. (m1_pre_topc X1 X0) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X2 = u1_struct_0 X1) \Rightarrow (((v1_tsep_1 X1 X0) \wedge (m1_pre_topc X1 X0)) \Leftrightarrow (v3_pre_topc X2 X0)))))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_pre_topc X1 X0) \Leftrightarrow ((v1_funct_1 (k7_tmap_1 X0 X1)) \wedge (v1_funct_2 (k7_tmap_1 X0 X1) (u1_struct_0 X0) (u1_struct_0 (k6_tmap_1 X0 X1)))) \wedge ((v5_pre_topc (k7_tmap_1 X0 X1) X0 (k6_tmap_1 X0 X1)) \wedge (m1_subset_1 (k7_tmap_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 (k6_tmap_1 X0 X1)))))))))) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& ((\neg v1_xboole_0 X1)\wedge(\neg v1_xboole_0 X3)\wedge(((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X1)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\wedge((v1_funct_1 X5)\wedge((v1_funct_2 X5 X2 X3)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3))))))\Rightarrow((r1_funct_2 X0 X1 X2 X3 X4 X5)\Leftrightarrow(X4 = X5))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\wedge(m1_pre_topc X1 X0))\Rightarrow((v1_funct_1 (k9_tmap_1 X0 X1))\wedge((v1_funct_2 (k9_tmap_1 X0 X1) (u1_struct_0 X0) (u1_struct_0 (k8_tmap_1 X0 X1)))\wedge(m1_subset_1 (k9_tmap_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 (k8_tmap_1 X0 X1)))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow((v1_funct_1 (k7_tmap_1 X0 X1))\wedge((v1_funct_2 (k7_tmap_1 X0 X1) (u1_struct_0 X0) (u1_struct_0 (k6_tmap_1 X0 X1)))\wedge(m1_subset_1 (k7_tmap_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 (k6_tmap_1 X0 X1)))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow((v1_pre_topc (k6_tmap_1 X0 X1))\wedge((v2_pre_topc (k6_tmap_1 X0 X1))\wedge(l1_pre_topc (k6_tmap_1 X0 X1))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\Rightarrow(\forall X1.(m1_pre_topc X1 X0)\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 (k8_tmap_1 X0 X1)))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 (k8_tmap_1 X0 X1)))))))\Rightarrow((X2 = k9_tmap_1 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow((X3 = u1_struct_0 X1)\Rightarrow(r1_funct_2 (u1_struct_0 X0) (u1_struct_0 (k8_tmap_1 X0 X1)) (u1_struct_0 X0) (u1_struct_0 (k6_tmap_1 X0 X3)) X2 (k7_tmap_1 X0 X3))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (\forall X2.((v1_pre_topc \\ & X2) \wedge ((v2_pre_topc X2) \wedge (l1_pre_topc X2))) \Rightarrow ((X2 = k8_tmap_1 X0 \\ & X1) \Leftrightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\ & ((X3 = u1_struct_0 X1) \Rightarrow (X2 = k6_tmap_1 X0 X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. \forall X1.(v1_xboole_0 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0))) \Rightarrow (v1_xboole_0 X2)) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (((v1_tsep_1 X1 X0) \wedge (m1_pre_topc \\ & X1 X0)) \Leftrightarrow ((v1_funct_1 (k9_tmap_1 X0 X1)) \wedge ((v1_funct_2 (k9_tmap_1 \\ & X0 X1) (u1_struct_0 X0) (u1_struct_0 (k8_tmap_1 X0 X1))) \wedge ((v5_pre_topc \\ & (k9_tmap_1 X0 X1) X0 (k8_tmap_1 X0 X1)) \wedge (m1_subset_1 (k9_tmap_1 \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ & (k8_tmap_1 X0 X1)))))))))) \end{aligned}$$