

t99_tmap_1

(TMV8J5facY8FisxMMMGGJxBAxtPPPjRhE32r)

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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow (\\
& (r1_xboole_0 (u1_struct_0 X2) X1) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X2)) \Rightarrow (r1_tmap_1 X2 (k6_tmap_1 X0 X1) (k2_tmap_1 X0 \\
& (k6_tmap_1 X0 X1) (k7_tmap_1 X0 X1) X2) X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc \\
& X1))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\
& X1) (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X0)))))) \Rightarrow ((v5_pre_topc X2 X1 X0) \Leftrightarrow \\
& (\forall X3.(m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (r1_tmap_1 X1 X0 \\
& X2 X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge \\
& (l1_pre_topc X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0)))) \Rightarrow ((\neg v2_struct_0 (k6_tmap_1 X0 X1)) \wedge ((v1_pre_topc (k6_tmap_1 \\
& X0 X1)) \wedge (v2_pre_topc (k6_tmap_1 X0 X1))))
\end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(l1_struct_0\ X0) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge \\ (l1_pre_topc\ X0)))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0 \\ X0))))\Rightarrow((v1_funct_1\ (k7_tmap_1\ X0\ X1))\wedge((v1_funct_2\ (k7_tmap_1 \\ X0\ X1)\ (u1_struct_0\ X0)\ (u1_struct_0\ (k6_tmap_1\ X0\ X1)))\wedge(m1_subset_1 \\ (k7_tmap_1\ X0\ X1)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (\\ u1_struct_0\ (k6_tmap_1\ X0\ X1))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge \\ (l1_pre_topc\ X0)))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0 \\ X0))))\Rightarrow((v1_pre_topc\ (k6_tmap_1\ X0\ X1))\wedge((v2_pre_topc\ (k6_tmap_1 \\ X0\ X1))\wedge(l1_pre_topc\ (k6_tmap_1\ X0\ X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((l1_struct_0\ X0)\wedge \\ ((l1_struct_0\ X1)\wedge(((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ (u1_struct_0 \\ X0)\ (u1_struct_0\ X1))\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ (u1_struct_0\ X0)\ (u1_struct_0\ X1))))))\wedge(l1_struct_0\ X3))))\Rightarrow \\ ((v1_funct_1\ (k2_tmap_1\ X0\ X1\ X2\ X3))\wedge((v1_funct_2\ (k2_tmap_1 \\ X0\ X1\ X2\ X3)\ (u1_struct_0\ X3)\ (u1_struct_0\ X1))\wedge(m1_subset_1\ (k2_tmap_1 \\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X3)\ (u1_struct_0 \\ X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. (m1_pre_topc\ X1\ X0)\Rightarrow(v2_pre_topc\ X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow (\\ & (r1_xboole_0 (u1_struct_0 X2) X1) \Rightarrow ((v1_funct_1 (k2_tmap_1 X0 \\ & (k6_tmap_1 X0 X1) (k7_tmap_1 X0 X1) X2)) \wedge ((v1_funct_2 (k2_tmap_1 \\ & X0 (k6_tmap_1 X0 X1) (k7_tmap_1 X0 X1) X2) (u1_struct_0 X2) (u1_struct_0 \\ & (k6_tmap_1 X0 X1))) \wedge ((v5_pre_topc (k2_tmap_1 X0 (k6_tmap_1 X0 \\ & X1) (k7_tmap_1 X0 X1) X2) X2 (k6_tmap_1 X0 X1)) \wedge (m1_subset_1 (k2_tmap_1 \\ & X0 (k6_tmap_1 X0 X1) (k7_tmap_1 X0 X1) X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X2) (u1_struct_0 (k6_tmap_1 X0 X1)))))))))) \end{aligned}$$