

t120_tmap_1 (TM YfyXtGmUELk- CEi9VWoNRrY3Hb4SJvjGXy)

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 $v1_funct_1 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tmap_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc \\
& X1))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow (\\
& \forall X3.((\neg v2_struct_0 X3) \wedge (m1_pre_topc X3 X0)) \Rightarrow (r4_tsep_1 \\
& X0 X2 X3) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (u1_struct_0 \\
& X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (((v1_funct_1 (k2_tmap_1 \\
& X0 X1 X4 (k1_tsep_1 X0 X2 X3))) \wedge ((v1_funct_2 (k2_tmap_1 X0 X1 X4 (\\
& k1_tsep_1 X0 X2 X3)) (u1_struct_0 (k1_tsep_1 X0 X2 X3)) (u1_struct_0 \\
& X1)) \wedge ((v5_pre_topc (k2_tmap_1 X0 X1 X4 (k1_tsep_1 X0 X2 X3)) (k1_tsep_1 \\
& X0 X2 X3) X1) \wedge (m1_subset_1 (k2_tmap_1 X0 X1 X4 (k1_tsep_1 X0 X2 X3)) \\
& (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k1_tsep_1 X0 X2 X3)) (\\
& u1_struct_0 X1)))))) \Leftrightarrow (((v1_funct_1 (k2_tmap_1 X0 X1 X4 X2)) \wedge \\
& ((v1_funct_2 (k2_tmap_1 X0 X1 X4 X2) (u1_struct_0 X2) (u1_struct_0 \\
& X1)) \wedge ((v5_pre_topc (k2_tmap_1 X0 X1 X4 X2) X2 X1) \wedge (m1_subset_1 \\
& (k2_tmap_1 X0 X1 X4 X2) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\
& X2) (u1_struct_0 X1)))))) \wedge ((v1_funct_1 (k2_tmap_1 X0 X1 X4 X3)) \wedge \\
& ((v1_funct_2 (k2_tmap_1 X0 X1 X4 X3) (u1_struct_0 X3) (u1_struct_0 \\
& X1)) \wedge ((v5_pre_topc (k2_tmap_1 X0 X1 X4 X3) X3 X1) \wedge (m1_subset_1 \\
& (k2_tmap_1 X0 X1 X4 X3) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\
& X3) (u1_struct_0 X1)))))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 X0 X1 X2 X3 = k5_relat_1 X2 X3) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k5_relat_1 X1 X0 = X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\wedge(((\neg v2_struct_0 X1)\wedge((v2_pre_topc X1)\wedge(l1_pre_topc X1)))\wedge(((v1_funct_1 X2)\wedge((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1))\wedge((v5_pre_topc X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))))))\wedge((\neg v2_struct_0 X3)\wedge(m1_pre_topc X3 X0))))))\Rightarrow((v1_funct_1 (k2_tmap_1 X0 X1 X2 X3)\wedge((v1_funct_2 (k2_tmap_1 X0 X1 X2 X3) (u1_struct_0 X3) (u1_struct_0 X1))\wedge(v5_pre_topc (k2_tmap_1 X0 X1 X2 X3) X3 X1))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_pre_topc X0))\wedge(((\neg v2_struct_0 X1)\wedge(m1_pre_topc X1 X0))\wedge((\neg v2_struct_0 X2)\wedge(m1_pre_topc X2 X0))))\Rightarrow((\neg v2_struct_0 (k1_tsep_1 X0 X1 X2))\wedge((v1_pre_topc (k1_tsep_1 X0 X1 X2))\wedge(m1_pre_topc (k1_tsep_1 X0 X1 X2) X0))) \quad (6)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\Rightarrow(\forall X1.(((\neg v2_struct_0 X1)\wedge((v2_pre_topc X1)\wedge(l1_pre_topc X1)))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))))))\Rightarrow(\forall X3.(m1_pre_topc X3 X0)\Rightarrow(k2_tmap_1 X0 X1 X2 X3 = k2_partfun1 (u1_struct_0 X0) (u1_struct_0 X1) X2 (u1_struct_0 X3)))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_relat_1 X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc X1)))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3.((\neg v2_struct_0 X3) \wedge (m1_pre_topc X3 X0)) \Rightarrow (\forall X4.((\neg v2_struct_0 X4) \wedge (m1_pre_topc X4 X0)) \Rightarrow (((X0 = k1_tsep_1 X0 X3 X4) \wedge (r4_tsep_1 X0 X3 X4)) \Rightarrow (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v5_pre_topc X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Leftrightarrow (((v1_funct_1 (k2_tmap_1 X0 X1 X2 X3)) \wedge ((v1_funct_2 (k2_tmap_1 X0 X1 X2 X3) (u1_struct_0 X3) (u1_struct_0 X1)) \wedge ((v5_pre_topc (k2_tmap_1 X0 X1 X2 X3) X3 X1) \wedge (m1_subset_1 (k2_tmap_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X3) (u1_struct_0 X1)))))) \wedge ((v1_funct_1 (k2_tmap_1 X0 X1 X2 X4)) \wedge ((v1_funct_2 (k2_tmap_1 X0 X1 X2 X4) (u1_struct_0 X4) (u1_struct_0 X1)) \wedge ((v5_pre_topc (k2_tmap_1 X0 X1 X2 X4) X4 X1) \wedge (m1_subset_1 (k2_tmap_1 X0 X1 X2 X4) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X4) (u1_struct_0 X1)))))))))))))) \end{aligned}$$