

t17_pcomps_1
(TMUrhSzKKM24Kvs3M2G8aznNJBIXyMGH8My)

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 $r1_setfam_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_pcomps_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (r1_tarski X1 (k2_pre_topc X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((l1_pre_topc X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k2_pre_topc X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((l1_pre_topc X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (m1_subset_1 (k1_pcomps_1 X0 X1) (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (r1_setfam_1 X0 X1) \Leftrightarrow (\forall X2. \neg (X2 \in X0) \wedge (\forall X3. \neg (X3 \in X1) \wedge (r1_tarski X2 X3))) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& \quad (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow (\forall X2.(m1_subset_1\ X2 \\
& \quad (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((X2 = k1_pcomps_1 \\
& \quad X0\ X1) \Leftrightarrow (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0 \\
& \quad X0))) \Rightarrow ((X3 \in X2) \Leftrightarrow (\exists X4.(m1_subset_1\ X4\ (k1_zfmisc_1\ (u1_struct_0 \\
& \quad X0))) \wedge ((X3 = k2_pre_topc\ X0\ X4) \wedge (X4 \in X1))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_pre_topc\ X0) \wedge (l1_pre_topc \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\
& \quad (u1_struct_0\ X0)))) \Rightarrow (r1_setfam_1\ X1\ (k1_pcomps_1\ X0\ X1)))
\end{aligned}$$