

t21_pcomps_1
(TMPDS8xWBi9h8YidYtduGN54sZ2vgyeeNLg)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_pcomps_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pcomps_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ 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.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((v4_pre_topc X1 X0) \Rightarrow (k2_pre_topc X0 X1 = X1)) \wedge (((v2_pre_topc X0) \wedge (k2_pre_topc X0 X1 = X1)) \Rightarrow (v4_pre_topc X1 X0)))) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_pcomps_1 X1 X0) \Rightarrow (k2_pre_topc X0 (k5_setfam_1 (u1_struct_0 X0) X1) = k5_setfam_1 (u1_struct_0 X0) (k1_pcomps_1 X0 X1)))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (k5_setfam_1 X0 X1 = k3_tarski X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (m1_subset_1 (k5_setfam_1 X0 X1) (k1_zfmisc_1 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((v2_tops_2\ X1\ X0) \Leftrightarrow (\forall X2. \\ & (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow ((X2 \in X1) \Rightarrow (v4_pre_topc \\ & X2\ X0)))))) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow (\forall X2.(m1_subset_1\ X2 \\ & (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((X2 = k1_pcomps_1 \\ & X0\ X1) \Leftrightarrow (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0 \\ & X0))) \Rightarrow ((X3 \in X2) \Leftrightarrow (\exists X4.(m1_subset_1\ X4\ (k1_zfmisc_1\ (u1_struct_0 \\ & X0))) \wedge ((X3 = k2_pre_topc\ X0\ X4) \wedge (X4 \in X1)))))))))) \end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_pre_topc\ X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & (u1_struct_0\ X0)))) \Rightarrow (((v1_pcomps_1\ X1\ X0) \wedge (v2_tops_2\ X1\ X0)) \Rightarrow \\ & (v4_pre_topc\ (k5_setfam_1\ (u1_struct_0\ X0)\ X1\ X0))) \end{aligned}$$