

t15_yellow13

(TMZB6bFd8d7qxHXfsTzXZBUvrJWTFSf8dAo)

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 $v1_cantor_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_yellow_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarSKI : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0))) \Rightarrow ((X1 \in X0) \Rightarrow ((X1 \in k8_setfam_1 X0 X2) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Rightarrow (X1 \in X3)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarSKI X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v1_tops_2 X1 X0) \wedge ((v1_cantor_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_pre_topc X2 X0) \Leftrightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(X3 \in X2) \wedge (\forall X4. (m1_subset_1 \\ & X4 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\neg(X4 \in X1) \wedge ((X3 \in X4) \wedge (r1_tarSKI \\ & X4 X2)))))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.((v1_cantor_1\ X1\ X0) \wedge \\ ((v1_tops_2\ X1\ X0) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0)))))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((X2 \in X1) \Rightarrow (v3_pre_topc\ X2\ X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0) \wedge (l1_struct_0\ X0)) \Rightarrow (\neg v1_xboole_0 \\ (u1_struct_0\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0) \Rightarrow (l1_struct_0\ X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow \\ (X2 \in X1)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1. \\ (m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2 \\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((v1_yellow_8 \\ X2\ X0\ X1) \Leftrightarrow ((X1 \in k8_setfam_1\ (u1_struct_0\ X0)\ X2) \wedge (\forall X3.(\\ m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\neg(v3_pre_topc \\ X3\ X0) \wedge ((X1 \in X3) \wedge (\forall X4.(m1_subset_1\ X4\ (k1_zfmisc_1\ (u1_struct_0 \\ X0)))) \Rightarrow (\neg(X4 \in X2) \wedge (r1_tarski\ X4\ X3)))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((v1_tops_2\ X1\ X0) \Leftrightarrow (\forall X2. \\ (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow ((X2 \in X1) \Rightarrow (v3_pre_topc \\ X2\ X0)))))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_pre_topc\ X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.((v1_cantor_1\ X1\ X0) \wedge ((v1_tops_2\ X1\ X0) \wedge (m1_subset_1 \\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))))) \Rightarrow (\forall X2. \\ (m1_subset_1\ X2\ (u1_struct_0\ X0)) \Rightarrow ((v1_yellow_8\ (ReplSep\ (toset \\ (\lambda X3 : \iota.m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \\ (\lambda X3 : \iota.(X3 \in X1) \wedge (X2 \in X3))\ (\lambda X3 : \iota.X3))\ X0\ X2) \wedge ((v1_tops_2 \\ (ReplSep\ (toset\ (\lambda X3 : \iota.m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0 \\ X0))))\ (\lambda X3 : \iota.(X3 \in X1) \wedge (X2 \in X3))\ (\lambda X3 : \iota.X3))\ X0) \wedge \\ (m1_subset_1\ (ReplSep\ (toset\ (\lambda X3 : \iota.m1_subset_1\ X3\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))))\ (\lambda X3 : \iota.(X3 \in X1) \wedge (X2 \in X3))\ (\lambda X3 : \iota. \\ X3))\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))))))))) \end{aligned}$$