

t21_tops_2 (TM-
FRUd95puP3Y2YYhcQ17PQdo47wuuyvT3u)

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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 $v2_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ 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 $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k6_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v2_tops_2 X1 X0) \Leftrightarrow (v1_tops_2 \\ (k7_setfam_1 (u1_struct_0 X0) X1) X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_finset_1 (k7_setfam_1 \\ (u1_struct_0 X0) X1)) \Leftrightarrow (v1_finset_1 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ X0))) \Rightarrow ((X1 \neq k1_xboole_0) \Rightarrow (k6_setfam_1 X0 (k7_setfam_1 X0 X1) = \\ k3_subset_1 X0 (k5_setfam_1 X0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((v4_pre_topc X1 X0) \Leftrightarrow (v3_pre_topc (k3_subset_1 \\ (u1_struct_0 X0) X1) X0))) \end{aligned} \quad (4)$$

Assume the following.

$$k3_tarski k1_xboole_0 = k1_xboole_0 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow \\ & (((v1_tops_2\ X1\ X0)\wedge(v1_finset_1\ X1))\Rightarrow(v3_pre_topc\ (k6_setfam_1 \\ & (u1_struct_0\ X0)\ X1)\ X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ X0)))\Rightarrow(k5_setfam_1\ X0\ X1 = k3_tarski\ X1) \quad (7)$$

Assume the following.

$$v1_xboole_0\ k1_xboole_0 \quad (8)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(l1_struct_0\ X0) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & X0)))\Rightarrow(m1_subset_1\ (k7_setfam_1\ X0\ X1)\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ X0)))\Rightarrow(m1_subset_1\ (k5_setfam_1\ X0\ X1)\ (k1_zfmisc_1\ X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow((v1_xboole_0 \\ & X1)\Rightarrow(v4_pre_topc\ X1\ X0))) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow \\ & (((v2_tops_2\ X1\ X0)\wedge(v1_finset_1\ X1))\Rightarrow(v4_pre_topc\ (k5_setfam_1 \\ & (u1_struct_0\ X0)\ X1)\ X0))) \end{aligned}$$