

t20_topgen_2
(TMGv4MjFHFZuJEXhmxAE3QdEdjLDHdw2Hrd)

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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 $k5_topgen_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((v4_pre_topc\ X1\ X0) \Leftrightarrow (v3_pre_topc\ (k3_subset_1 \\ (u1_struct_0\ X0)\ X1)\ X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (u1_struct_0\ (k5_topgen_2\ X0\ X1)))) \Rightarrow ((v3_pre_topc\ X2\ (k5_topgen_2 \\ X0\ X1)) \Leftrightarrow (\neg(X1 \in X2) \wedge (\neg v1_finset_1\ (k3_subset_1\ (u1_struct_0\ (\\ k5_topgen_2\ X0\ X1))\ X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (k3_subset_1\ X0\ (k3_subset_1\ X0\ X1) = X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(v1_pre_topc\ (k5_topgen_2\ X0\ X1)) \wedge (l1_pre_topc\ (k5_topgen_2\ X0\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (m1_subset_1\ (k3_subset_1\ X0\ X1)\ (k1_zfmisc_1\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4_xboole_0\ X0\ X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_pre_topc\ X2)\wedge(l1_pre_topc \\ & X2))\Rightarrow((X2 = k5_topgen_2\ X0\ X1)\Leftrightarrow((u1_struct_0\ X2 = X0)\wedge(u1_pre_topc \\ & X2 = k2_xboole_0\ (ReplSep\ (toset\ (\lambda X3 : \iota.m1_subset_1\ X3\ (k1_zfmisc_1 \\ & X0)))\ (\lambda X3 : \iota.\neg X1 \in X3)\ (\lambda X3 : \iota.X3))\ (ReplSep\ (toset\ (\\ & \lambda X3 : \iota.m1_subset_1\ X3\ (k1_zfmisc_1\ X0)))\ (\lambda X3 : \iota.v1_finset_1 \\ & X3)\ (\lambda X3 : \iota.k3_subset_1\ X0\ X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(k3_subset_1\ X0\ X1 = k4_xboole_0\ X0\ X1) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (u1_struct_0\ (k5_topgen_2\ X0\ X1))))\Rightarrow((v4_pre_topc\ X2\ (k5_topgen_2 \\ & X0\ X1))\Leftrightarrow(\neg(X1 \in X0)\wedge(\neg X1 \in X2)\wedge(\neg v1_finset_1\ X2))) \end{aligned}$$