

t23_topgen_2
(TMbaprZ7d5kmhVwJcqP2cDthEKNTztux3SB)

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Let $v1_finset_1 : \iota \Rightarrow o$ 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 $k5_topgen_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (X1 = k2_xboole_0 X0 (k4_xboole_0 X1 X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k5_topgen_2 X0 X1)))) \Rightarrow ((v3_pre_topc X2 (k5_topgen_2 X0 X1)) \Leftrightarrow (\neg(X1 \in X2) \wedge (\neg v1_finset_1 (k3_subset_1 (u1_struct_0 (k5_topgen_2 X0 X1)) X2)))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_finset_1 X0) \wedge (v1_finset_1 X1)) \Rightarrow (v1_finset_1 (k2_xboole_0 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. v1_finset_1 (k1_tarski X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (v1_pre_topc (k5_topgen_2 X0 X1)) \wedge (l1_pre_topc (k5_topgen_2 X0 X1)) \quad (6)$$

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.

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

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski\ X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow (X2 = X0)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.(\neg v1_finset_1\ X0)\Rightarrow(\forall X2.(m1_subset_1 \\ & X2\ (k1_zfmisc_1\ (u1_struct_0\ (k5_topgen_2\ X0\ X1))))\Rightarrow(\neg(X2 = k1_tarski \\ & X1)\wedge(v3_pre_topc\ X2\ (k5_topgen_2\ X0\ X1)))) \end{aligned}$$