

t3_topgen_4
(TMNi5NEuxxr3Ffy6wjQ5QwHcuL2wpPu4LYU)

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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 $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_topgen_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0. ((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1. (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (k2_pre_topc\ X0\ X1 = k4_subset_1\ (u1_struct_0\ X0)\ X1\ (k2_topgen_1\ X0\ X1))) \quad (2)$$

Assume the following.

$$\forall X0. (l1_pre_topc\ X0) \Rightarrow (\forall X1. (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (((v4_pre_topc\ X1\ X0) \Rightarrow (k2_pre_topc\ X0\ X1 = X1)) \wedge (((v2_pre_topc\ X0) \wedge (k2_pre_topc\ X0\ X1 = X1)) \Rightarrow (v4_pre_topc\ X1\ X0)))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski\ X0\ X1) \Rightarrow (k2_xboole_0\ X0\ X1 = X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ X0))) \Rightarrow (k4_subset_1\ X0\ X1\ X2 = k2_xboole_0\ X1\ X2) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow (v4_pre_topc\ (k2_pre_topc\ X0\ X1)\ X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow(m1_subset_1\ (k2_topgen_1\ X0\ X1)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0\ X0\ X1 = k2_xboole_0\ X1\ X0 \quad (8)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0)))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow((v4_pre_topc\ X1\ X0)\Leftrightarrow(r1_tarski\ (k2_topgen_1\ X0\ X1)\ X1)))$$