

t5_topgen_1
(TMNm9e3kPt1FNc45TLGkPPmCKTYZADTGWUa)

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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 $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_topgen_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k6_domain_1 X0 X1 = k1_tarski X1) \quad (2)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k1_zfmisc_1 X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (m1_subset_1 (k6_domain_1 X0 X1) (k1_zfmisc_1 X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k2_tops_1 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))) \Rightarrow ((X2 = k1_topgen_1 X0 X1) \Leftrightarrow (\forall X3.(m1_subset_1 X3 (\\ & k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((X3 \in X2) \Leftrightarrow (\exists X4.(m1_subset_1 \\ & X4 (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge ((X3 = k2_tops_1 X0 X4) \wedge (X4 \in \\ & X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow \\ & (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow \\ & ((X1 = k6_domain_1\ (k1_zfmisc_1\ (u1_struct_0\ X0))\ X2) \Rightarrow (k1_topgen_1 \\ & X0\ X1 = k6_domain_1\ (k1_zfmisc_1\ (u1_struct_0\ X0))\ (k2_tops_1\ X0 \\ & X2)))) \end{aligned}$$