

t39_topgen_3
(TMG581NLcUuE1NTkzqK9Nahd2djgwxzAfbd)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_topgen_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_arytm_3 : \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_pre_topc X1 X0) \Leftrightarrow (v4_pre_topc (k3_subset_1 (u1_struct_0 X0) X1) X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k6_topgen_3 X0 X1)))))) \Rightarrow ((v4_pre_topc X2 (k6_topgen_3 X0 X1)) \Leftrightarrow (X1 \in X2)))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 X0 (k3_subset_1 X0 X1) = X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_subset_1 X1 X0)\wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\neg v1_xboole_0 (k3_subset_1 X0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(v1_pre_topc (k6_topgen_3 X0 X1))\wedge((v2_pre_topc (k6_topgen_3 X0 X1))\wedge(l1_pre_topc (k6_topgen_3 X0 X1))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(m1_subset_1 (k3_subset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_pre_topc X2)\wedge((v2_pre_topc X2)\wedge(l1_pre_topc X2)))\Rightarrow((X2 = k6_topgen_3 X0 X1)\Leftrightarrow((u1_struct_0 X2 = X0)\wedge(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X2))))\Rightarrow(k2_pre_topc X2 X3 = k14_funcop_1 X3 k11_arytm_3 X3 (k2_xboole_0 X3 (k3_xboole_0 (k1_tarski X1) X0)))))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4_xboole_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(\neg X3 \in X1))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 X0 X1 = k4_xboole_0 X0 X1) \quad (13)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(\neg v1_subset_1 X1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow \\ & (\forall X2.((v1_subset_1 X2 (u1_struct_0 (k6_topgen_3 X0 X1))) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k6_topgen_3 X0 X1))))) \Rightarrow \\ & ((v3_pre_topc X2 (k6_topgen_3 X0 X1)) \Leftrightarrow (\neg X1 \in X2)))) \end{aligned}$$