

t43_topgen_3 (TMH- HQUdugf7xGMUvanzdGmLX4iY93PZ7XdR)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_topgen_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. \forall X2. ((v1_subset_1 \\ & X2 (u1_struct_0 (k7_topgen_3 X0 X1))) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 (k7_topgen_3 X0 X1)))))) \Rightarrow (k1_tops_1 (k7_topgen_3 \\ & X0 X1) X2 = k8_subset_1 (u1_struct_0 (k7_topgen_3 X0 X1)) X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k3_xboole_0 X0 X1 = X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (l1_pre_topc X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X1)))) \Rightarrow (((v3_pre_topc X3 X1) \Rightarrow (k1_tops_1 X1 X3 = X3)) \wedge ((k1_tops_1 \\ & X0 X2 = X2) \Rightarrow (v3_pre_topc X2 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski (k3_xboole_0 X0 X1) X0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k8_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(v1_pre_topc (k7_topgen_3 X0 X1))\wedge((v2_pre_topc (k7_topgen_3 X0 X1))\wedge(l1_pre_topc (k7_topgen_3 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (7)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.\forall X2.((v1_subset_1 X2 (u1_struct_0 (k7_topgen_3 X0 X1)))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k7_topgen_3 X0 X1))))))\Rightarrow((v3_pre_topc X2 (k7_topgen_3 X0 X1))\Leftrightarrow(r1_tarski X2 X1)))$$