

t42_topgen_3
(TMUypQQwu9TmwGD4aF6J5pTKZuuuQPazf5d)

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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 $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1_subset_1 X3 X0) \wedge (m1_subset_1 X4 X0)) \Rightarrow (k15_funcop_1 X0 X1 X2 X3 X4 = k14_funcop_1 X1 X2 X3 X4) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k8_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(v1_pre_topc (k7_topgen_3 X0 X1)) \wedge ((v2_pre_topc (k7_topgen_3 X0 X1)) \wedge (l1_pre_topc (k7_topgen_3 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_pre_topc X2) \wedge ((v2_pre_topc X2) \wedge (l1_pre_topc X2))) \Rightarrow ((X2 = k7_topgen_3 X0 X1) \Leftrightarrow ((u1_struct_0 X2 = X0) \wedge (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X2)) \Rightarrow (k1_tops_1 X2 X3 = k15_funcop_1 (k1_zfmisc_1 (u1_struct_0 X2)) X3 X0 X3 (k8_subset_1 (u1_struct_0 X2) X3 X1)))))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((X0 = X1) \Rightarrow (k14_funcop_1 X0 X1 X2 X3 = X2)) \wedge ((X0 \neq X1) \Rightarrow (k14_funcop_1 X0 X1 X2 X3 = X3)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow((v1_subset_1 X1 X0)\Leftrightarrow(X1\neq X0)) \quad (6)$$

Theorem 1

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