

t39_topgen_5
(TML1xVjDFH82mbJrppp5vYHe7YQGJgD63JZ)

October 27, 2020

Let $v2_topgen_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k2_topgen_5 : \iota$ be given. Let $k1_topgen_5 : \iota$ be given. Let $k3_topgen_5 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $k2_topgen_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_topgen_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_topgen_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski (k4_xboole_0 X0 X1) X0 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topgen_5))) \Rightarrow \\ & ((X0 = k7_subset_1 (u1_struct_0 (k15_euclid np_2)) k2_topgen_5 \\ & \quad k1_topgen_5) \Rightarrow (\forall X1. k2_pre_topc k3_topgen_5 (k7_subset_1 \\ & \quad (u1_struct_0 k3_topgen_5) X0 (k1_tarski X1)) = k2_struct_0 k3_topgen_5)) \end{aligned} \quad (3)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k7_subset_1 X0 X1 X2 = k4_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(l1_struct_0 X0) \quad (6)$$

Assume the following.

$$(\neg v2_struct_0 k3_topgen_5)\wedge((v1_pre_topc k3_topgen_5)\wedge((v2_pre_topc k3_topgen_5)\wedge(l1_pre_topc k3_topgen_5))) \quad (7)$$

Assume the following.

$$m1_subset_1 k2_topgen_5 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2))) \quad (8)$$

Assume the following.

$$\forall X0.((v2_pre_topc X0)\wedge(l1_pre_topc X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow((v2_topgen_1 X1 X0)\Leftrightarrow(r1_tarski X1 (k2_topgen_1 X0 X1)))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v1_pre_topc X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0))))\Rightarrow((X0 = k3_topgen_5)\Leftrightarrow((u1_struct_0 X0 = k2_topgen_5)\wedge(\exists X1.(m1_topgen_2 X1 X0)\wedge((\forall X2.(m1_subset_1 X2 k1_numbers)\Rightarrow(k1_funct_1 X1 (k19_euclid X2 k6_numbers) = ReplSep (toset (\lambda X3 : \iota.m1_subset_1 X3 k1_numbers)) (\lambda X3 : \iota.\neg r1_xxreal_0 X3 k6_numbers) (\lambda X3 : \iota.k4_subset_1 (u1_struct_0 (k15_euclid np_2)) (k1_topreal9 np_2 (k19_euclid X2 X3) X3) (k6_domain_1 (u1_struct_0 (k15_euclid np_2)) (k19_euclid X2 k6_numbers))))))\wedge(\forall X2.(m1_subset_1 X2 k1_numbers)\Rightarrow(\forall X3.(m1_subset_1 X3 k1_numbers)\Rightarrow((\neg r1_xxreal_0 X3 k6_numbers)\Rightarrow(k1_funct_1 X1 (k19_euclid X2 X3) = ReplSep (toset (\lambda X4 : \iota.m1_subset_1 X4 k1_numbers)) (\lambda X4 : \iota.\neg r1_xxreal_0 X4 k6_numbers) (\lambda X4 : \iota.k9_subset_1 (u1_struct_0 (k15_euclid np_2)) (k1_topreal9 np_2 (k19_euclid X2 X3) X4) k2_topgen_5)))))))))) \quad (10) \end{aligned}$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow((X2 = k2_topgen_1 X0 X1)\Leftrightarrow(\forall X3.(X3 \in u1_struct_0 X0)\Rightarrow((X3 \in X2)\Leftrightarrow(r1_topgen_1 X0 X1 X3)))))) \quad (11)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(k2_struct_0 X0 = u1_struct_0 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (u1_struct_0\ X0))) \Rightarrow (\forall X2.(r1_topgen_1\ X0\ X1\ X2) \Leftrightarrow (X2 \in k2_pre_topc \\ & X0\ (k7_subset_1\ (u1_struct_0\ X0)\ X1\ (k1_tarski\ X2)))))) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} & (v2_topgen_1\ (k7_subset_1\ (u1_struct_0\ (k15_euclid\ np_2))\ k2_topgen_5 \\ & k1_topgen_5\ k3_topgen_5) \wedge (m1_subset_1\ (k7_subset_1\ (u1_struct_0 \\ & (k15_euclid\ np_2))\ k2_topgen_5\ k1_topgen_5)\ (k1_zfmisc_1\ (u1_struct_0 \\ & k3_topgen_5))) \end{aligned}$$