

t55_topgen_5 (TM- cuaNt3aqXWSnfBDZHfsXvMxwzXjkCQhTs)

October 27, 2020

Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_limfunc1 : \iota \Rightarrow \iota$ be given. Let $k2_topgen_3 : \iota$ 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 $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xxreal_0 : \iota$ be given. Let $k3_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k1_xxreal_0 : \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_limfunc1 : \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k1_cantor_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_rat_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k6_subset_1 \\ (k4_xxreal_1 k2_xxreal_0 X0) (k3_xxreal_1 k2_xxreal_0 X1) = k4_xxreal_1 \\ X1 X0)) \end{aligned} \tag{1}$$

Assume the following.

$$k1_numbers = k4_xxreal_1 k2_xxreal_0 k1_xxreal_0 \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow ((v3_pre_topc (k3_limfunc1 X0) k2_topgen_3) \wedge \\ (m1_subset_1 (k3_limfunc1 X0) (k1_zfmisc_1 (u1_struct_0 k2_topgen_3)))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 \\ X0 (k3_subset_1 X0 X1) = X1) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\wedge((v3_pre_topc\ X1\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow(v4_pre_topc\ (k3_subset_1\ (u1_struct_0\ X0)\ X1)\ X0)) \quad (6)$$

Assume the following.

$$v1_xxreal_0\ k1_xxreal_0 \quad (7)$$

Assume the following.

$$(\neg v2_struct_0\ k2_topgen_3)\wedge((v1_pre_topc\ k2_topgen_3)\wedge((v2_pre_topc\ k2_topgen_3)\wedge(l1_pre_topc\ k2_topgen_3))) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(m1_subset_1\ (k1_limfunc1\ X0)\ (k1_zfmisc_1\ k1_numbers)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(k3_subset_1\ X0\ X1 = k4_xboole_0\ X0\ X1) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(k3_limfunc1\ X0 = k4_xxreal_1\ X0\ k1_xxreal_0) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0)\wedge((v1_pre_topc\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))))\Rightarrow((X0 = k2_topgen_3)\Leftrightarrow((u1_struct_0\ X0 = k1_numbers)\wedge(\exists X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ k1_numbers))))\wedge((u1_pre_topc\ X0 = k1_cantor_1\ k1_numbers\ X1)\wedge(X1 = ReplSep2\ (toset\ (\lambda X2 : \iota.m1_subset_1\ X2\ k1_numbers))\ (\lambda X2 : \iota.toset\ (\lambda X3 : \iota.m1_subset_1\ X3\ k1_numbers))\ (\lambda X2 : \iota.\lambda X3 : \iota.(\neg r1_xxreal_0\ X3\ X2)\wedge(v1_rat_1\ X3))\ (\lambda X2 : \iota.\lambda X3 : \iota.k3_rcomp_1\ X2\ X3)))))) \quad (12) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(k1_limfunc1\ X0 = k3_xxreal_1\ k2_xxreal_0\ X0) \quad (13)$$

Theorem 1

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow((v4_pre_topc\ (k1_limfunc1\ X0)\ k2_topgen_3)\wedge(m1_subset_1\ (k1_limfunc1\ X0)\ (k1_zfmisc_1\ (u1_struct_0\ k2_topgen_3))))$$