

t54_topgen_5
 (TMVrR43wVxFuf7Ty1M6vTF5nYtnp36xeZsA)

October 27, 2020

Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_prob_1 : \iota \Rightarrow \iota$ 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 $k1_xxreal_0 : \iota$ be given. Let $k2_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_xxreal_0 : \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_limfunc1 : \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k6_subset_1 \\ (k4_xxreal_1 X0 k1_xxreal_0) (k2_xxreal_1 X1 k1_xxreal_0) = k4_xxreal_1 \\ X0 X1)) \end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow ((v3_pre_topc (k2_limfunc1 X0) k2_topgen_3) \wedge \\ (m1_subset_1 (k2_limfunc1 X0) (k1_zfmisc_1 (u1_struct_0 k2_topgen_3)))) \end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge \\ ((v3_pre_topc X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))) \Rightarrow (v4_pre_topc (k3_subset_1 (u1_struct_0 X0) X1) X0) \end{aligned} \tag{5}$$

Assume the following.

$$v1_xxreal_0 \ k2_xxreal_0 \quad (6)$$

Assume the following.

$$(\neg v2_struct_0 \ k2_topgen_3) \wedge ((v1_pre_topc \ k2_topgen_3) \wedge ((v2_pre_topc \ k2_topgen_3) \wedge (l1_pre_topc \ k2_topgen_3))) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow (m1_subset_1 \ (k2_limfunc1 \ X0) \ (k1_zfmisc_1 \ k1_numbers)) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 \ X0) \Rightarrow (m1_subset_1 \ (k10_prob_1 \ X0) \ (k1_zfmisc_1 \ k1_numbers)) \quad (9)$$

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.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 \ X0) \wedge ((v1_pre_topc \ X0) \wedge ((v2_pre_topc \ X0) \wedge (l1_pre_topc \ X0)))) \Rightarrow ((X0 = k2_topgen_3) \Leftrightarrow ((u1_struct_0 \ X0 = \\ & k1_numbers) \wedge (\exists X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k1_zfmisc_1 \ k1_numbers)))) \wedge ((u1_pre_topc \ X0 = k1_cantor_1 \ k1_numbers \ X1) \wedge \\ & (X1 = ReplSep2 \ (toset \ (\lambda X2 : \iota.m1_subset_1 \ X2 \ k1_numbers)) \ (\\ & (\lambda X2 : \iota.toset \ (\lambda X3 : \iota.m1_subset_1 \ X3 \ k1_numbers)) \ (\\ & \lambda X2 : \iota.\lambda X3 : \iota.(\neg r1_xxreal_0 \ X3 \ X2) \wedge (v1_rat_1 \ X3)) \ (\\ & \lambda X2 : \iota.\lambda X3 : \iota.k3_rcomp_1 \ X2 \ X3)))))) \quad (11) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow (k2_limfunc1 \ X0 = k2_xxreal_1 \ X0 \ k1_xxreal_0) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 \ X0) \Rightarrow (k10_prob_1 \ X0 = k4_xxreal_1 \ k2_xxreal_0 \ X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow (v1_xxreal_0 \ X0) \quad (14)$$

Theorem 1

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow ((v4_pre_topc \ (k10_prob_1 \ X0) \ k2_topgen_3) \wedge (m1_subset_1 \ (k10_prob_1 \ X0) \ (k1_zfmisc_1 \ (u1_struct_0 \ k2_topgen_3))))$$