

l20_topgen_3 (TMNignRnNwkmJHDSzE- fQu4MqpsKggqFTmhjK)

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Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $c1_topgen_3 : \iota$ be given. Let $k2_topgen_3 : \iota$ be given. Let $v1_cantor_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k1_cantor_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ 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. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow \\ & ((u1_pre_topc X0 = k1_cantor_1 (u1_struct_0 X0) X1) \Leftrightarrow ((v1_tops_2 \\ & X1 X0) \wedge ((v1_cantor_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} c1_topgen_3 = & ReplSep2 (toset (\lambda X0 : \iota. m1_subset_1 X0 k1_numbers)) \\ & (\lambda X0 : \iota. toset (\lambda X1 : \iota. m1_subset_1 X1 k1_numbers)) (\\ & \lambda X0 : \iota. \lambda X1 : \iota. (\neg r1_xxreal_0 X1 X0) \wedge (v1_rat_1 X1)) (\\ & \lambda X0 : \iota. \lambda X1 : \iota. k3_rcomp_1 X0 X1) \end{aligned} \tag{2}$$

Assume the following.

$$u1_pre_topc k2_topgen_3 = k1_cantor_1 k1_numbers c1_topgen_3 \tag{3}$$

Assume the following.

$$\begin{aligned} & \exists X0. (m1_subset_1 X0 (k1_zfmisc_1 (k1_zfmisc_1 k1_numbers))) \wedge \\ & ((u1_pre_topc k2_topgen_3 = k1_cantor_1 k1_numbers X0) \wedge (X0 = ReplSep2 \\ & (toset (\lambda X1 : \iota. m1_subset_1 X1 k1_numbers)) (\lambda X1 : \iota. \\ & toset (\lambda X2 : \iota. m1_subset_1 X2 k1_numbers)) (\lambda X1 : \iota. \lambda X2 : \\ & \iota. (\neg r1_xxreal_0 X2 X1) \wedge (v1_rat_1 X2)) (\lambda X1 : \iota. \lambda X2 : \\ & \iota. k3_rcomp_1 X1 X2))) \end{aligned} \tag{4}$$

Assume the following.

$$u1_struct_0 \ k2_topgen_3 = k1_numbers \quad (5)$$

Assume the following.

$$(\neg v2_struct_0 \ k2_topgen_3) \wedge ((v1_pre_topc \ k2_topgen_3) \wedge ((v2_pre_topc \ k2_topgen_3) \wedge (l1_pre_topc \ k2_topgen_3))) \quad (6)$$

Assume the following.

$$m1_subset_1 \ c1_topgen_3 \ (k1_zfmisc_1 \ (k1_zfmisc_1 \ k1_numbers)) \quad (7)$$

Theorem 1

$$(v1_tops_2 \ c1_topgen_3 \ k2_topgen_3) \wedge ((v1_cantor_1 \ c1_topgen_3 \ k2_topgen_3) \wedge (m1_subset_1 \ c1_topgen_3 \ (k1_zfmisc_1 \ (k1_zfmisc_1 \ (u1_struct_0 \ k2_topgen_3))))))$$