

t14_topgen_2 (TMK- WHTX5SshKoiQuCcgcqf9nBuHgEQRjknP)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_tdlat_3 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k2_waybel23 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_cantor_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k10_eqrel_1 : \iota \Rightarrow \iota$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\exists X1.((v1_cantor_1\ X1\ X0) \wedge \\ ((v1_tops_2\ X1\ X0) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0)))))) \wedge (k1_card_1\ X1 = k2_waybel23\ X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (r1_tarski\ (k1_setfam_1\ X1)\ X0) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v1_tdlat_3\ X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (((v1_tops_2\ (k10_eqrel_1\ (u1_struct_0\ X0))\ X0) \wedge ((v1_cantor_1 \\ (k10_eqrel_1\ (u1_struct_0\ X0))\ X0) \wedge (m1_subset_1\ (k10_eqrel_1 \\ (u1_struct_0\ X0))\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))))) \wedge \\ (\forall X1.((v1_tops_2\ X1\ X0) \wedge ((v1_cantor_1\ X1\ X0) \wedge (m1_subset_1 \\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))))) \Rightarrow (r1_tarski \\ (k10_eqrel_1\ (u1_struct_0\ X0))\ X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.k1_card_1\ (k10_eqrel_1\ X0) = k1_card_1\ X0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski\ X0\ X1) \Rightarrow (r1_ordinal1\ (k1_card_1\ X0)\ (k1_card_1\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v3_ordinal1\ X0)\wedge(v3_ordinal1\ X1))\Rightarrow((r1_ordinal1\ X0\ X1)\Leftrightarrow(r1_tarski\ X0\ X1)) \quad (6)$$

Assume the following.

$$\forall X0.v1_card_1\ (k1_card_1\ X0) \quad (7)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(k2_waybel23\ X0 = k1_setfam_1\ (ReplSep\ (toset\ (\lambda X1 : \iota.(v1_cantor_1\ X1\ X0)\wedge((v1_tops_2\ X1\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))))))\ (\lambda X1 : \iota.True)\ (\lambda X1 : \iota.k1_card_1\ X1))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski\ X0\ X1)\wedge(r1_tarski\ X1\ X0)) \quad (9)$$

Assume the following.

$$\forall X0.(v1_card_1\ X0)\Rightarrow(v3_ordinal1\ X0) \quad (10)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v1_tdlat_3\ X0)\wedge(l1_pre_topc\ X0)))\Rightarrow(k2_waybel23\ X0 = k1_card_1\ (u1_struct_0\ X0))$$