

t17_topgen_2
(TMbx4kCX7oEv6vS4Em6ueFeQtNqvqiktLUT)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_waybel23 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_setfam_1 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v1_tops_2 X1 X0) \wedge ((v1_cantor_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\forall X2.((v1_tops_2 \\ & X2 X0) \wedge ((v1_cantor_1 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 \\ & X3 (u1_struct_0 X0) (u1_pre_topc X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_pre_topc X0)))))) \Rightarrow (((X1 = k2_reset_1 \\ & (u1_pre_topc X0) X3) \wedge (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & X0)) \Rightarrow ((X4 \in k1_funct_1 X3 X4) \wedge (\forall X5.((v3_pre_topc X5 X0) \wedge \\ & (m1_subset_1 X5 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((X4 \in X5) \Rightarrow (\\ & r1_tarski (k1_funct_1 X3 X4) X5)))))) \Rightarrow (r1_tarski X1 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarSKI X0 X1)\Rightarrow(r1_ordinal1 (k1_card_1 X0) (k1_card_1 X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v3_ordinal1 X0)\wedge(v3_ordinal1 X1))\Rightarrow((r1_ordinal1 X0 X1)\Leftrightarrow(r1_tarSKI X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(v1_card_1 (k2_waybel23 X0)) \quad (6)$$

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

$$\forall X0.((v2_pre_topc X0)\wedge(l1_pre_topc X0))\Rightarrow(\forall X1.((v1_tops_2 X1 X0)\wedge((v1_cantor_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))))))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (u1_struct_0 X0) (u1_pre_topc X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_pre_topc X0))))))\Rightarrow(((X1 = k2_relset_1 (u1_pre_topc X0) X2)\wedge(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow((X3 \in k1_funct_1 X2 X3)\wedge(\forall X4.((v3_pre_topc X4 X0)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow((X3 \in X4)\Rightarrow(r1_tarSKI (k1_funct_1 X2 X3) X4))))))\Rightarrow(k2_waybel23 X0 = k1_card_1 X1))))))$$