

t46_topgen_1
(TMQcu7VRJ3d6kB6thwMvxwPQncA6DMJzPLK)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v1_orders_4 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v7_topgen_1 : \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $k4_topgen_1 : \iota \Rightarrow \iota$ be given. Let $v4_card_3 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_tops_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. k1_card_1 (k1_card_1 X0) = k1_card_1 X0 \quad (1)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (2)$$

Assume the following.

$$\forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (v1_card_1 (k4_topgen_1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l1_struct_0 X0) \Rightarrow ((v1_orders_4 X0) \Leftrightarrow (v4_card_3 (u1_struct_0 X0))) \quad (4)$$

Assume the following.

$$\forall X0. (v4_card_3 X0) \Leftrightarrow (r1_ordinal1 (k1_card_1 X0) k4_ordinal1) \quad (5)$$

Assume the following.

$$\forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow ((v7_topgen_1 X0) \Leftrightarrow (r1_ordinal1 (k4_topgen_1 X0) k4_ordinal1)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (v1_card_1 X1) \Rightarrow ((X1 = k4_topgen_1 X0) \Leftrightarrow ((\exists X2. (m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge ((v1_tops_1 X2 X0) \wedge (X1 = k1_card_1 \\ & X2))) \wedge (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow ((v1_tops_1 X2 X0) \Rightarrow (r1_ordinal1 X1 (k1_card_1 X2))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v4_card_3 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v4_card_3 X1)) \quad (8)$$

Theorem 1

$$\forall X0.((v2_pre_topc X0) \wedge ((v1_orders_4 X0) \wedge (l1_pre_topc X0))) \Rightarrow (v7_topgen_1 X0)$$