

t32_topgen_2
(TMc9cdK8EdWGYqr3YK17cjZop8fUNJnpca8)

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Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_topgen_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_eqrel_1 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_eqrel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 (k2_xboole_0 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1_card_1 X0) \Rightarrow (\forall X1. (v1_card_1 X1) \Rightarrow (\neg(\neg v1_finset_1 X0) \wedge (((r1_ordinal1 X1 X0) \vee (X1 \in X0)) \wedge (\neg(k1_card_2 X0 X1 = X0) \wedge (k1_card_2 X1 X0 = X0)))))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. r1_ordinal1 (k1_card_1 (k2_xboole_0 X0 X1)) (k1_card_2 (k1_card_1 X0) (k1_card_1 X1)) \quad (4)$$

Assume the following.

$$\forall X0. (\neg v1_finset_1 X0) \Rightarrow (k1_card_1 (ReplSep (toset (\lambda X1 : \iota. m1_subset_1 X1 (k1_zfmisc_1 X0))) (\lambda X1 : \iota. v1_finset_1 X1) (\lambda X1 : \iota. k3_subset_1 X0 X1)) = k1_card_1 X0) \quad (5)$$

Assume the following.

$$\forall X0.k1_card_1 (k10_eqrel_1 X0) = k1_card_1 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Rightarrow (r1_ordinal1 (k1_card_1 X0) (k1_card_1 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow (r1_ordinal1 X0 X1) \Leftrightarrow (r1_tarski X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k7_subset_1 X0 X1 X2 = k4_xboole_0 X1 X2) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (10)$$

Assume the following.

$$\forall X0.(\neg v1_finset_1 X0) \Rightarrow ((\neg v1_finset_1 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1_eqrel_1 X1 X0) \Rightarrow (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k6_subset_1 X0 X1) (k1_zfmisc_1 X0) \quad (13)$$

Assume the following.

$$\forall X0.v1_card_1 (k1_card_1 X0) \quad (14)$$

Assume the following.

$$\forall X0.m1_eqrel_1 (k10_eqrel_1 X0) X0 \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (17)$$

Assume the following.

$$\forall X0.(v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_finset_1 X0) \Rightarrow (\forall X1. \forall X2. ((v1_tops_2 \\ & X2 (k5_topgen_2 X0 X1)) \wedge ((v1_cantor_1 X2 (k5_topgen_2 X0 X1)) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 (k5_topgen_2 \\ & X0 X1)))))) \Rightarrow ((X2 = k2_xboole_0 (k7_subset_1 (k1_zfmisc_1 X0) \\ & (k10_eqrel_1 X0) (k1_tarski (k1_tarski X1))) (ReplSep (toset (\\ & \lambda X3 : \iota.m1_subset_1 X3 (k1_zfmisc_1 X0))) (\lambda X3 : \iota.v1_finset_1 \\ & X3) (\lambda X3 : \iota.k3_subset_1 X0 X3))) \Rightarrow (k1_card_1 X2 = k1_card_1 \\ & X0))) \end{aligned}$$