

t37_borsuk_7 (TMGBCK-
wqy7aySGB3aQ9aAnvUZmpLRYuJYGG)

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Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $k3_topmetr : \iota$ be given. Let $k3_numbers : \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_0 : \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_topalg_2 : \iota$ be given. Let $k5_toprealb : \iota \Rightarrow \iota$ be given. Let $c15_borsuk_7 : \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\ (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2.(v1_xxreal_0 X2) \Rightarrow (\\ (X0 = k2_rcomp_1 X1 X2) \Rightarrow (v3_pre_topc X0 k3_topmetr)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski (k3_xboole_0 X0 X1) X0 \quad (3)$$

Assume the following.

$$u1_struct_0 k3_topmetr = k1_numbers \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k8_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (6)$$

Assume the following.

$$k2_topalg_2 = k3_topmetr \quad (7)$$

Assume the following.

$$u1_struct_0 (k1_pre_topc k3_topmetr (k5_toprealb c15_borsuk_7)) = c15_borsuk_7 \quad (8)$$

Assume the following.

$$v1_xxreal_0 k1_xxreal_0 \quad (9)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (l1_pre_topc X1)) \quad (10)$$

Assume the following.

$$(v2_pre_topc k3_topmetr) \wedge (l1_pre_topc k3_topmetr) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (m1_subset_1 (k2_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_pre_topc (k1_pre_topc X0 X1)) \wedge (m1_pre_topc (k1_pre_topc X0 X1) X0)) \quad (13)$$

Assume the following.

$$c15_borsuk_7 = k3_numbers \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (k5_toprealb X0 = X0) \quad (15)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(l1_pre_topc X1) \Rightarrow (((m1_pre_topc X1 X0) \Leftrightarrow ((r1_tarski (u1_struct_0 X1) (u1_struct_0 X0)) \wedge (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X1)))) \Rightarrow ((v3_pre_topc X2 X1) \Leftrightarrow (\exists X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge (v3_pre_topc X3 X0) \wedge (X2 = k8_subset_1 (u1_struct_0 X0) X3 (u1_struct_0 X1)))))))))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(k9_subset_1 X0 X1 X2 = k9_subset_1 X0 X2 X1) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (18)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (19)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ &(u1_struct_0 k3_topmetr)))\Rightarrow((X1 = k3_numbers)\Rightarrow((v3_pre_topc \\ &(k9_subset_1 k1_numbers k3_numbers (k2_rcomp_1 X0 k1_xxreal_0)) \\ &(k1_pre_topc k3_topmetr X1))\wedge(m1_subset_1 (k9_subset_1 k1_numbers \\ &k3_numbers (k2_rcomp_1 X0 k1_xxreal_0)) (k1_zfmisc_1 (u1_struct_0 \\ &(k1_pre_topc k3_topmetr X1)))))) \end{aligned}$$