

t75_borsuk_5 (TMZY-
CMi3sEEHHR4M9y1CUUA8SopG7ZB2A4p)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_connsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_topmetr : \iota$ be given. Let $v2_compts_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_seq_4 : \iota \Rightarrow \iota$ be given. Let $k4_seq_4 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_seq_4 : \iota \Rightarrow \iota$ be given. Let $k2_seq_4 : \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v2_compts_1 X0 k3_topmetr) \wedge (m1_subset_1 X0 (k1_zfmisc_1 \\ (u1_struct_0 k3_topmetr)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ k1_numbers)) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow (((X2 \in X1) \wedge (X1 = X0)) \Rightarrow \\ ((r1_xxreal_0 (k5_seq_4 X1) X2) \wedge (r1_xxreal_0 X2 (k4_seq_4 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ (v1_xxreal_0 X2) \Rightarrow ((X0 \in k1_xxreal_1 X1 X2) \Leftrightarrow ((r1_xxreal_0 X1 X0) \wedge \\ (r1_xxreal_0 X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (k5_seq_4 X0 = k3_seq_4 X0) \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (k4_seq_4 X0 = k2_seq_4 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(k1_rcomp_1 X0 X1 = k1_xxreal_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v1_xreal_0 (k3_seq_4 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v1_xreal_0 (k2_seq_4 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski X0 X1)\wedge(r1_tarski X1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))\Rightarrow(v3_membered X0) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0)\wedge((v2_connsp_1 X0 k3_topmetr)\wedge \\ & ((v2_compts_1 X0 k3_topmetr)\wedge(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 \\ & k3_topmetr))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 k1_numbers))\Rightarrow \\ & (((X0 = X1)\wedge(r1_tarski (k1_rcomp_1 (k5_seq_4 X1) (k4_seq_4 X1)) \\ & X1))\Rightarrow(k1_rcomp_1 (k5_seq_4 X1) (k4_seq_4 X1) = X1))) \end{aligned}$$