

t29_borsuk_4

(TMSYJ8VQg5Qh96CKNbAivx9itfzweasXBqM)

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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 $k5_topmetr : \iota$ 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. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k5_topmetr))) \Rightarrow \\ & (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 k1_numbers)) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (((X2 \in X1) \wedge (X1 = X0)) \Rightarrow ((r1_xxreal_0 (k5_seq_4 \\ & X1) X2) \wedge (r1_xxreal_0 X2 (k4_seq_4 X1)))))) \end{aligned} \quad (2)$$

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.

$$\forall X0. \forall X1. ((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k1_rcomp_1 X0 X1 = k1_xxreal_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (m1_subset_1 (k5_seq_4 X0) k1_numbers) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (m1_subset_1 (k4_seq_4 X0) k1_numbers) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_connsp_1 X0 k5_topmetr) \wedge \\ & ((v2_compts_1 X0 k5_topmetr) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 \\ & k5_topmetr)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 k1_numbers)) \Rightarrow \\ & (((X0 = X1) \wedge (r1_tarski (k1_rcomp_1 (k5_seq_4 X1) (k4_seq_4 X1)) \\ & X1)) \Rightarrow (k1_rcomp_1 (k5_seq_4 X1) (k4_seq_4 X1) = X1))) \end{aligned}$$