

t22_borsuk_4

(TMFHVnXrN6PkhBxfQU64omAtZADXT6VVRbX)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

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.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v2_connsp_1 X0 k5_topmetr) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k5_topmetr)))))) \Rightarrow (\\ & \forall X1. (m1_subset_1 X1 (u1_struct_0 k5_topmetr)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 k5_topmetr)) \Rightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 k5_topmetr)) \Rightarrow (((r1_xxreal_0 X1 X2) \wedge ((r1_xxreal_0 \\ & X2 X3) \wedge ((X1 \in X0) \wedge (X3 \in X0)))) \Rightarrow (X2 \in X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 (u1_struct_0 k5_topmetr)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 k5_topmetr)) \Rightarrow (m1_subset_1 (k1_rcomp_1 \\ & X0 X1) (k1_zfmisc_1 (u1_struct_0 k5_topmetr)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2. (m1_subset_1 X2 k1_numbers) \Rightarrow ((X0 \in \\ & k1_rcomp_1 X1 X2) \Leftrightarrow ((r1_xxreal_0 X1 X0) \wedge (r1_xxreal_0 X0 X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k1_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Leftrightarrow(X0 \in k1_numbers) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0)\wedge((v2_connsp_1 X0 k5_topmetr)\wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k5_topmetr))))))\Rightarrow(\\ & \forall X1.(v1_xreal_0 X1)\Rightarrow(\forall X2.(v1_xreal_0 X2)\Rightarrow(((X1 \in \\ & X0)\wedge(X2 \in X0))\Rightarrow(r1_tarski (k1_rcomp_1 X1 X2) X0)))) \end{aligned}$$