

t3_borsuk_2

(TMEwt9cPzN9qyCyTqBEqy64ucBu7UuSQ17a)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_topmetr : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_borsuk_1 : \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $k6_struct_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k19_borsuk_1 : \iota$ be given. Let $k18_borsuk_1 : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X1 \in X0) \Rightarrow (k1_funct_1 (k2_funcop_1 X0 X2) X1 = X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X2 X0)) \Rightarrow (k8_funcop_1 X0 X1 X2 = k2_funcop_1 X1 X2) \quad (3)$$

Assume the following.

$$k5_topmetr = k17_borsuk_1 \quad (4)$$

Assume the following.

$$(\neg v2_struct_0 k17_borsuk_1) \wedge ((v1_pre_topc k17_borsuk_1) \wedge (v2_pre_topc k17_borsuk_1)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v2_pre_topc\ X0)\wedge(l1_pre_topc \\ & X0))\wedge(((\neg v2_struct_0\ X1)\wedge(l1_pre_topc\ X1))\wedge(m1_subset_1\ X2 \\ & (u1_struct_0\ X1))))\Rightarrow((v1_funct_1\ (k6_struct_0\ X0\ X1\ X2))\wedge((v1_funct_2 \\ & (k6_struct_0\ X0\ X1\ X2)\ (u1_struct_0\ X0)\ (u1_struct_0\ X1))\wedge(v5_pre_topc \\ & (k6_struct_0\ X0\ X1\ X2)\ X0\ X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_struct_0\ X0))\Rightarrow(\neg v1_xboole_0\ (u1_struct_0\ X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(l1_struct_0\ X0) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((l1_struct_0\ X0)\wedge(((\neg v2_struct_0 \\ & X1)\wedge(l1_struct_0\ X1))\wedge(m1_subset_1\ X2\ (u1_struct_0\ X1))))\Rightarrow(\\ & (v1_funct_1\ (k6_struct_0\ X0\ X1\ X2))\wedge((v1_funct_2\ (k6_struct_0 \\ & X0\ X1\ X2)\ (u1_struct_0\ X0)\ (u1_struct_0\ X1))\wedge(m1_subset_1\ (k6_struct_0 \\ & X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_struct_0 \\ & X1)))))) \end{aligned} \quad (9)$$

Assume the following.

$$m1_subset_1\ k19_borsuk_1\ (u1_struct_0\ k17_borsuk_1) \quad (10)$$

Assume the following.

$$m1_subset_1\ k18_borsuk_1\ (u1_struct_0\ k17_borsuk_1) \quad (11)$$

Assume the following.

$$l1_pre_topc\ k17_borsuk_1 \quad (12)$$

Assume the following.

$$k19_borsuk_1 = np_1 \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_struct_0\ X0)\Rightarrow(\forall X1.((\neg v2_struct_0\ X1)\wedge \\ & (l1_struct_0\ X1))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X1))\Rightarrow \\ & (k6_struct_0\ X0\ X1\ X2 = k8_funcop_1\ (u1_struct_0\ X1)\ (u1_struct_0 \\ & X0)\ X2))) \end{aligned} \quad (14)$$

Assume the following.

$$k18_borsuk_1 = k6_numbers \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0)) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\exists X2. \\ & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 k5_topmetr) (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & k5_topmetr) (u1_struct_0 X0)))))) \wedge ((v5_pre_topc X2 k5_topmetr \\ & X0) \wedge ((k1_funct_1 X2 k6_numbers = X1) \wedge (k1_funct_1 X2 np_1 = X1)))))) \end{aligned}$$