

t28_borsuk_1 (TM-
cAPCuXp5pGyCve9GqXSJ7t6KFiy4hpDRE)

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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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_eqrel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_borsuk_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_borsuk_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k13_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_eqrel_1 X1 X0))) \Rightarrow ((v1_funct_1 (k13_eqrel_1 X0 X1)) \wedge ((v1_funct_2 \\ & (k13_eqrel_1 X0 X1) X0 X1) \wedge (m1_subset_1 (k13_eqrel_1 X0 X1) (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge \\ & (l1_pre_topc X0))) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_eqrel_1 X1 (u1_struct_0 \\ & X0))) \Rightarrow ((v1_funct_1 (k12_borsuk_1 X0 X1)) \wedge ((v1_funct_2 (k12_borsuk_1 \\ & X0 X1) (u1_struct_0 X0) (u1_struct_0 (k11_borsuk_1 X0 X1))) \wedge ((\\ & v5_pre_topc (k12_borsuk_1 X0 X1) X0 (k11_borsuk_1 X0 X1)) \wedge (m1_subset_1 \\ & (k12_borsuk_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) \\ & (u1_struct_0 (k11_borsuk_1 X0 X1))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\ & (m1_eqrel_1 X1 X0)) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow \\ & ((X2 = k13_eqrel_1 X0 X1) \Leftrightarrow (\forall X3. (m1_subset_1 X3 X0) \Rightarrow (X3 \in \\ & k3_funct_2 X0 X1 X2 X3)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0)) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_eqrel_1 X1 (u1_struct_0 \\ & X0))) \Rightarrow (k12_borsuk_1 X0 X1 = k13_eqrel_1 (u1_struct_0 X0) X1)) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0)) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_eqrel_1 X1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (X2 \in k3_funct_2 \\ & (u1_struct_0 X0) (u1_struct_0 (k11_borsuk_1 X0 X1)) (k12_borsuk_1 \\ & X0 X1) X2))) \end{aligned}$$