

t32_borsuk_1

(TMc31bkie3XL18hRKuF6b4VA5nZNkRUfUx2)

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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 $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ 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 $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_borsuk_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
 & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0))) \Rightarrow (\\
 & \forall X2.((\neg v1_xboole_0 X2) \wedge (m1_eqrel_1 X2 (u1_struct_0 X1)))) \Rightarrow \\
 & (k13_borsuk_1 X0 X1 X2 = k2_xboole_0 X2 (ReplSep (toset (\lambda X3 : \\
 & \iota.m1_subset_1 X3 (u1_struct_0 X0))) (\lambda X3 : \iota. \neg X3 \in u1_struct_0 \\
 & X1) (\lambda X3 : \iota.k6_domain_1 (u1_struct_0 X0) X3)))))) \quad (1)
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\
 & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (2)
 \end{aligned}$$

Theorem 1

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
 & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0))) \Rightarrow (\\
 & \forall X2.((\neg v1_xboole_0 X2) \wedge (m1_eqrel_1 X2 (u1_struct_0 X1)))) \Rightarrow \\
 & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((\neg X3 \in u1_struct_0 \\
 & X1) \Rightarrow (k6_domain_1 (u1_struct_0 X0) X3 \in k13_borsuk_1 X0 X1 X2))))
 \end{aligned}$$