

l109_borsuk_7

(TMGBiDo1D7rkK6cZ6c7HQzBS64u6ifqE664)

October 27, 2020

Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_toprealb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_borsuk_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_topalg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_topmetr : \iota$ be given. Let $k8_toprealb : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_borsuk_7 : \iota \Rightarrow \iota$ be given. Let $k16_borsuk_7 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $c18_borsuk_7 : \iota$ be given. Let $m1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume

the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (u1_struct_0 (k7_toprealb \\
& \quad (k2_nat_1 np_2 np_1) (k4_struct_0 (k15_euclid (k2_nat_1 np_2 \\
& \quad np_1))) np_1)) (u1_struct_0 (k15_euclid np_2))) \wedge (m1_subset_1 \\
& X0 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k7_toprealb (k2_nat_1 \\
& \quad np_2 np_1) (k4_struct_0 (k15_euclid (k2_nat_1 np_2 np_1))) \\
& \quad np_1)) (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (\neg(\neg v2_borsuk_7 \\
& X0 (k2_nat_1 np_2 np_1) np_2 (k4_struct_0 (k15_euclid (k2_nat_1 \\
& \quad np_2 np_1))) np_1) \wedge ((v5_pre_topc X0 (k7_toprealb (k2_nat_1 \\
& \quad np_2 np_1) (k4_struct_0 (k15_euclid (k2_nat_1 np_2 np_1))) \\
& \quad np_1) (k15_euclid np_2)) \wedge ((v3_topalg_6 (k1_partfun1 (u1_struct_0 \\
& \quad k5_topmetr) (u1_struct_0 (k8_toprealb np_3)) (u1_struct_0 (\\
& \quad k8_toprealb (k1_nat_1 np_2 np_1))) (u1_struct_0 (k8_toprealb \\
& \quad np_2)) (k14_borsuk_7 np_1) (k16_borsuk_7 np_2 X0)) (k8_toprealb \\
& \quad np_2) (k3_funct_2 (u1_struct_0 (k8_toprealb (k2_nat_1 np_2 \\
& \quad np_1))) (u1_struct_0 (k8_toprealb np_2)) (k16_borsuk_7 np_2 \\
& \quad X0) c18_borsuk_7)) \wedge (m1_borsuk_2 (k1_partfun1 (u1_struct_0 \\
& \quad k5_topmetr) (u1_struct_0 (k8_toprealb np_3)) (u1_struct_0 (\\
& \quad k8_toprealb (k1_nat_1 np_2 np_1))) (u1_struct_0 (k8_toprealb \\
& \quad np_2)) (k14_borsuk_7 np_1) (k16_borsuk_7 np_2 X0)) (k8_toprealb \\
& \quad np_2) (k3_funct_2 (u1_struct_0 (k8_toprealb (k2_nat_1 np_2 \\
& \quad np_1))) (u1_struct_0 (k8_toprealb np_2)) (k16_borsuk_7 np_2 \\
& \quad X0) c18_borsuk_7) (k3_funct_2 (u1_struct_0 (k8_toprealb (k2_nat_1 \\
& \quad np_2 np_1))) (u1_struct_0 (k8_toprealb np_2)) (k16_borsuk_7 \\
& \quad np_2 X0) c18_borsuk_7))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (u1_struct_0 (k7_toprealb \\
& (k2_nat_1 np_2 np_1) (k4_struct_0 (k15_euclid (k2_nat_1 np_2 \\
& np_1))) np_1)) (u1_struct_0 (k15_euclid np_2))) \wedge (m1_subset_1 \\
& X0 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k7_toprealb (k2_nat_1 \\
& np_2 np_1) (k4_struct_0 (k15_euclid (k2_nat_1 np_2 np_1))) \\
& np_1)) (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow ((v5_pre_topc \\
& X0 (k7_toprealb (k2_nat_1 np_2 np_1) (k4_struct_0 (k15_euclid \\
& (k2_nat_1 np_2 np_1))) np_1) (k15_euclid np_2)) \Rightarrow ((v2_borsuk_7 \\
& X0 (k2_nat_1 np_2 np_1) np_2 (k4_struct_0 (k15_euclid (k2_nat_1 \\
& np_2 np_1))) np_1) \vee ((v3_topalg_6 (k1_partfun1 (u1_struct_0 \\
& k5_topmetr) (u1_struct_0 (k8_toprealb np_3)) (u1_struct_0 (\\
& k8_toprealb (k1_nat_1 np_2 np_1))) (u1_struct_0 (k8_toprealb \\
& np_2)) (k14_borsuk_7 np_1) (k16_borsuk_7 np_2 X0)) (k8_toprealb \\
& np_2) (k3_funct_2 (u1_struct_0 (k8_toprealb (k2_nat_1 np_2 \\
& np_1))) (u1_struct_0 (k8_toprealb np_2)) (k16_borsuk_7 np_2 \\
& X0) c18_borsuk_7)) \wedge (m1_borsuk_2 (k1_partfun1 (u1_struct_0 \\
& k5_topmetr) (u1_struct_0 (k8_toprealb np_3)) (u1_struct_0 (\\
& k8_toprealb (k1_nat_1 np_2 np_1))) (u1_struct_0 (k8_toprealb \\
& np_2)) (k14_borsuk_7 np_1) (k16_borsuk_7 np_2 X0)) (k8_toprealb \\
& np_2) (k3_funct_2 (u1_struct_0 (k8_toprealb (k2_nat_1 np_2 \\
& np_1))) (u1_struct_0 (k8_toprealb np_2)) (k16_borsuk_7 np_2 \\
& X0) c18_borsuk_7) (k3_funct_2 (u1_struct_0 (k8_toprealb (k2_nat_1 \\
& np_2 np_1))) (u1_struct_0 (k8_toprealb np_2)) (k16_borsuk_7 \\
& np_2 X0) c18_borsuk_7))))))
\end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (u1_struct_0 (k7_toprealb \\
& (k2_nat_1 np_2 np_1) (k4_struct_0 (k15_euclid (k2_nat_1 np_2 \\
& np_1))) np_1)) (u1_struct_0 (k15_euclid np_2))) \wedge ((v5_pre_topc \\
& X0 (k7_toprealb (k2_nat_1 np_2 np_1) (k4_struct_0 (k15_euclid \\
& (k2_nat_1 np_2 np_1))) np_1) (k15_euclid np_2)) \wedge (m1_subset_1 \\
& X0 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k7_toprealb (k2_nat_1 \\
& np_2 np_1) (k4_struct_0 (k15_euclid (k2_nat_1 np_2 np_1))) \\
& np_1)) (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (v2_borsuk_7 \\
& X0 (k2_nat_1 np_2 np_1) np_2 (k4_struct_0 (k15_euclid (k2_nat_1 \\
& np_2 np_1))) np_1)
\end{aligned}$$