

t54_topalg_1

(TMQe3oTToAr8dHdyLNqQxM1mQ7UXmCBFBQA)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v1_borsuk_2 : \iota \Rightarrow o$ 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 $m1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_topalg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tops_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_topalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_borsuk_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_borsuk_2 X3 \\ & X0 X1 X2) \Rightarrow ((r1_borsuk_6 X0 X1 X2) \Rightarrow (r2_funct_2 (u1_struct_0 (k5_topalg_1 \\ & X0 X1)) (u1_struct_0 (k5_topalg_1 X0 X2)) (k2_tops_2 (u1_struct_0 \\ & (k5_topalg_1 X0 X2)) (u1_struct_0 (k5_topalg_1 X0 X1)) (k6_topalg_1 \\ & X0 X1 X2 X3)) (k6_topalg_1 X0 X2 X1 (k2_borsuk_2 X0 X1 X2 X3))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_pre_topc \\ & X0) \wedge (l1_pre_topc X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ & m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((r1_borsuk_6 X0 X1 X2) \Leftrightarrow (r1_borsuk_2 \\ & X0 X1 X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow ((v1_borsuk_2 X0) \Leftrightarrow (\forall X1.(\\ & m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (r1_borsuk_2 X0 X1 X2)))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge ((v1_borsuk_2 \\ & X0) \wedge (l1_pre_topc X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_borsuk_2 X3 X0 X1 X2) \Rightarrow (r2_funct_2 (u1_struct_0 (k5_topalg_1 \\ & X0 X1)) (u1_struct_0 (k5_topalg_1 X0 X2)) (k2_tops_2 (u1_struct_0 \\ & (k5_topalg_1 X0 X2)) (u1_struct_0 (k5_topalg_1 X0 X1)) (k6_topalg_1 \\ & X0 X1 X2 X3)) (k6_topalg_1 X0 X2 X1 (k2_borsuk_2 X0 X1 X2 X3)))))) \end{aligned}$$