

t1_borsuk_3 (TMSAHVR- Bee3B4T4zyDN9GroaHfbNaxnLV3Z)

October 27, 2020

Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_borsuk_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_borsuk_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v2_pre_topc X0) \wedge \\ & (l1_pre_topc X0)) \wedge (((v2_pre_topc X1) \wedge (l1_pre_topc X1)) \wedge ((m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X1)))))) \Rightarrow (k3_borsuk_1 X0 X1 X2 X3 = k2_zfmisc_1 X2 \\ & X3) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \tag{2}$$

Assume the following.

$$\forall X0. (l1_struct_0 X0) \Rightarrow (m1_subset_1 (k2_struct_0 X0) (k1_zfmisc_1 (u1_struct_0 X0))) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge \\ & ((v2_pre_topc X1) \wedge (l1_pre_topc X1))) \Rightarrow ((v1_pre_topc (k2_borsuk_1 \\ & X0 X1)) \wedge ((v2_pre_topc (k2_borsuk_1 X0 X1)) \wedge (l1_pre_topc (k2_borsuk_1 \\ & X0 X1)))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. (l1_struct_0 X0) \Rightarrow (k2_struct_0 X0 = u1_struct_0 X0) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\
& ((v2_pre_topc\ X1)\wedge(l1_pre_topc\ X1))\Rightarrow(\forall X2.((v1_pre_topc \\
& X2)\wedge((v2_pre_topc\ X2)\wedge(l1_pre_topc\ X2)))\Rightarrow((X2 = k2_borsuk_1 \\
& X0\ X1)\Leftrightarrow((u1_struct_0\ X2 = k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_struct_0 \\
& X1))\wedge(u1_pre_topc\ X2 = ReplSep\ (toset\ (\lambda X3 : \iota.m1_subset_1 \\
& X3\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X2))))))\ (\lambda X3 : \iota. \\
& r1_tarski\ X3\ (ReplSep2\ (toset\ (\lambda X4 : \iota.m1_subset_1\ X4\ (k1_zfmisc_1 \\
& (u1_struct_0\ X0))))\ (\lambda X4 : \iota.toset\ (\lambda X5 : \iota.m1_subset_1 \\
& X5\ (k1_zfmisc_1\ (u1_struct_0\ X1))))\ (\lambda X4 : \iota.\lambda X5 : \iota. \\
& (X4 \in u1_pre_topc\ X0)\wedge(X5 \in u1_pre_topc\ X1))\ (\lambda X4 : \iota.\lambda X5 : \\
& \iota.k8_mcart_1\ (u1_struct_0\ X0)\ (u1_struct_0\ X1)\ X4\ X5)))\ (\lambda X3 : \\
& \iota.k5_setfam_1\ (u1_struct_0\ X2)\ X3))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\
& ((v2_pre_topc\ X1)\wedge(l1_pre_topc\ X1))\Rightarrow(k2_struct_0\ (k2_borsuk_1 \\
& X0\ X1) = k3_borsuk_1\ X0\ X1\ (k2_struct_0\ X0)\ (k2_struct_0\ X1))
\end{aligned}$$