

l4_topalg_2 (TMJgDEQaXK- MvmgX7iAJcozXSNi4JqzWUGZx)

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Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_borsuk_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k5_topmetr : \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17_borsuk_1 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$k5_topmetr = k17_borsuk_1 \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & (\neg v2_struct_0 \ k17_borsuk_1) \wedge ((v1_pre_topc \ k17_borsuk_1) \wedge (\\ & \quad v2_pre_topc \ k17_borsuk_1)) \end{aligned} \quad (4)$$

Assume the following.

$$v6_membered \ k4_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & ((v2_pre_topc\ (k15_euclid\ X0)) \wedge \\ & ((v13_algstr_0\ (k15_euclid\ X0)) \wedge ((v2_rlvect_1\ (k15_euclid\ X0)) \wedge \\ & ((v3_rlvect_1\ (k15_euclid\ X0)) \wedge ((v4_rlvect_1\ (k15_euclid\ X0)) \wedge \\ & ((v5_rlvect_1\ (k15_euclid\ X0)) \wedge ((v6_rlvect_1\ (k15_euclid\ X0)) \wedge \\ & ((v7_rlvect_1\ (k15_euclid\ X0)) \wedge ((v8_rlvect_1\ (k15_euclid\ X0)) \wedge \\ & (v5_rltopsp1\ (k15_euclid\ X0)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(l1_rltopsp1\ X0) \Rightarrow ((l1_rlvect_1\ X0) \wedge (l1_pre_topc\ X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \wedge \\ ((v2_pre_topc\ X1) \wedge (l1_pre_topc\ X1))) \Rightarrow & ((v1_pre_topc\ (k2_borsuk_1 \\ X0\ X1)) \wedge ((v2_pre_topc\ (k2_borsuk_1\ X0\ X1)) \wedge (l1_pre_topc\ (k2_borsuk_1 \\ X0\ X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$l1_pre_topc\ k17_borsuk_1 \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((v5_rltopsp1\ (k15_euclid\ X0)) \wedge (l1_rltopsp1\ (k15_euclid\ X0))) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow & (\forall X1. \\ & ((v2_pre_topc\ X1) \wedge (l1_pre_topc\ X1)) \Rightarrow (\forall X2.((v1_pre_topc \\ X2) \wedge ((v2_pre_topc\ X2) \wedge (l1_pre_topc\ X2))) \Rightarrow & ((X2 = k2_borsuk_1 \\ X0\ X1) \Leftrightarrow & ((u1_struct_0\ X2 = k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_struct_0 \\ X1)) \wedge (u1_pre_topc\ X2 = ReplSep\ (toiset\ (\lambda X3 : \iota.m1_subset_1 \\ X3\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X2))))))\ (\lambda X3 : \iota. \\ r1_tarski\ X3\ (ReplSep2\ (toiset\ (\lambda X4 : \iota.m1_subset_1\ X4\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))))\ (\lambda X4 : \iota.toiset\ (\lambda X5 : \iota.m1_subset_1 \\ X5\ (k1_zfmisc_1\ (u1_struct_0\ X1))))\ (\lambda X4 : \iota.\lambda X5 : \iota. \\ (X4 \in u1_pre_topc\ X0) \wedge (X5 \in u1_pre_topc\ X1))\ (\lambda X4 : \iota.\lambda X5 : \\ \iota.k8_mcart_1\ (u1_struct_0\ X0)\ (u1_struct_0\ X1)\ X4\ X5)))\ (\lambda X3 : \\ \iota.k5_setfam_1\ (u1_struct_0\ X2)\ X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v6_membered\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow (v7_ordinal1\ X1)) \quad (12)$$

Theorem 1

$$\begin{aligned} u1_struct_0\ (k2_borsuk_1\ (k15_euclid\ np_1)\ k5_topmetr) = & k2_zfmisc_1 \\ (u1_struct_0\ (k15_euclid\ np_1))\ (u1_struct_0\ k5_topmetr) \end{aligned}$$