

t28_topalg_6 (TMRyVd- fjUT8Ao2wdxHpaTa6mu5qTJZBY5eh)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v7_topalg_6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_topalg_6 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $m1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_topalg_6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_topalg_6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k17_borsuk_1 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_2 : \iota \Rightarrow \iota$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xxreal_2 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v4_topalg_6 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_topalg_2 : \iota$ be given. Let $k4_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k3_topmetr : \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k5_topmetr : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_topalg_6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_topalg_6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_xxreal_2 : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg r1_xxreal_0 X0 X1) \wedge ((\neg v3_xxreal_0 X1) \wedge (\neg v2_xxreal_0 X0)))) \quad (1)$$

Assume the following.

$$u1_struct_0 \ k17_borsuk_1 = k1_rcomp_1 \ k6_numbers \ np_1 \quad (2)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (k1_xxreal_2 (k1_xxreal_1 X0 X1) = X1))) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (k2_xxreal_2 (k1_xxreal_1 X0 X1) = X0))) \quad (4)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k4_partfun1 k1_numbers (k2_struct_0 X0)) (k1_topalg_6 X0)) \Rightarrow ((v1_funct_1 X1) \wedge ((v4_topalg_6 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 k2_topalg_2) (u1_struct_0 X0))))))) \quad (5)$$

Assume the following.

$$k4_topmetr k6_numbers np_1 = k17_borsuk_1 \quad (6)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 k3_topmetr)))) \Rightarrow ((X2 = k1_rcomp_1 X0 X1) \Rightarrow (k4_topmetr X0 X1 = k1_pre_topc k3_topmetr X2)))) \quad (8)$$

Assume the following.

$$((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (10)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (11)$$

Assume the following.

$$k5_topmetr = k17_borsuk_1 \quad (12)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (13)$$

Assume the following.

$$k2_topalg_2 = k3_topmetr \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\quad (15)$$

$$k1_relset_1 X0 X1 = k9_xtuple_0 X1)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(k1_rcomp_1 \quad (16)$$

$$X0 X1 = k1_xxreal_1 X0 X1)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(\neg v1_xboole_0 (k1_topalg_6 X0)) \quad (17)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\neg v1_xboole_0 (k4_partfun1 X0 X1) \quad (19)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_pre_topc X0))\wedge \quad (21)$$

$$((v6_topalg_6 X1 X0)\wedge(m1_subset_1 X1 (k1_topalg_6 X0))))\Rightarrow(m1_subset_1$$

$$(k3_topalg_6 X0 X1) (u1_struct_0 X0))$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_pre_topc X0))\wedge \quad (22)$$

$$((v5_topalg_6 X1 X0)\wedge(m1_subset_1 X1 (k1_topalg_6 X0))))\Rightarrow(m1_subset_1$$

$$(k2_topalg_6 X0 X1) (u1_struct_0 X0))$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(m1_subset_1 (k1_topalg_6 X0) (k1_zfmisc_1 \quad (23)$$

$$(k4_partfun1 k1_numbers (k2_struct_0 X0))))$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\quad (24)$$

$$m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0))$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ ((v5_topalg_6 X1 X0) \wedge (m2_subset_1 X1 (k4_partfun1 k1_numbers \\ (k2_struct_0 X0)) (k1_topalg_6 X0))) \Rightarrow (k2_topalg_6 X0 X1 = k1_funct_1 \\ X1 (k2_xxreal_2 (k9_xtuple_0 X1)))) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 k2_topalg_2) (u1_struct_0 \\ X0)))))) \Rightarrow ((v4_topalg_6 X1 X0) \Leftrightarrow (((v6_xxreal_2 (k1_relset_1 (u1_struct_0 \\ k2_topalg_2) X1)) \wedge (m1_subset_1 (k1_relset_1 (u1_struct_0 k2_topalg_2) \\ X1) (k1_zfmisc_1 k1_numbers))) \wedge (\exists X2.(m1_pre_topc X2 k2_topalg_2) \wedge \\ (\exists X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X2) \\ (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ (u1_struct_0 X2) (u1_struct_0 X0)))))) \wedge ((X1 = X3) \wedge ((X2 = k1_pre_topc \\ k2_topalg_2 (k1_relset_1 (u1_struct_0 k2_topalg_2) X1)) \wedge (v5_pre_topc \\ X3 X2 X0)))))))))) \end{aligned} \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_borsuk_2 \\ X0 X1 X2) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 \\ k5_topmetr) (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (\\ k2_zfmisc_1 (u1_struct_0 k5_topmetr) (u1_struct_0 X0)))))) \Rightarrow \\ ((m1_borsuk_2 X3 X0 X1 X2) \Leftrightarrow ((v5_pre_topc X3 k5_topmetr X0) \wedge ((k1_funct_1 \\ X3 k6_numbers = X1) \wedge (k1_funct_1 X3 np_1 = X2)))))) \end{aligned} \quad (27)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_borsuk_2 \\ X0 X1 X2) \Leftrightarrow (\exists X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 \\ k5_topmetr) (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (\\ k2_zfmisc_1 (u1_struct_0 k5_topmetr) (u1_struct_0 X0)))))) \wedge \\ ((v5_pre_topc X3 k5_topmetr X0) \wedge ((k1_funct_1 X3 k6_numbers = X1) \wedge \\ (k1_funct_1 X3 np_1 = X2)))))) \end{aligned} \quad (28)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ ((v6_topalg_6 X1 X0) \wedge (m2_subset_1 X1 (k4_partfun1 k1_numbers \\ (k2_struct_0 X0)) (k1_topalg_6 X0))) \Rightarrow (k3_topalg_6 X0 X1 = k1_funct_1 \\ X1 (k1_xxreal_2 (k9_xtuple_0 X1)))) \end{aligned} \quad (29)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_topalg_6\ X0))\Rightarrow((v7_topalg_6\ X1\ X0)\Rightarrow((v5_topalg_6\ X1\ X0)\wedge(v6_topalg_6\ X1\ X0)))) \quad (30)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ k1_numbers))\Rightarrow(v3_membered\ X0) \quad (31)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(v1_xxreal_0\ X0) \quad (32)$$

Assume the following.

$$\forall X0.((v1_xxreal_0\ X0)\wedge(v2_xxreal_0\ X0))\Rightarrow((\neg v1_xboole_0\ X0)\wedge((v1_xxreal_0\ X0)\wedge(\neg v3_xxreal_0\ X0))) \quad (33)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow((v4_relat_1\ X2\ X0)\wedge(v5_relat_1\ X2\ X1)) \quad (34)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(v1_xreal_0\ X0) \quad (35)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \quad (36)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xreal_0\ X1)) \quad (37)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1.((v7_topalg_6\ X1\ X0)\wedge(m2_subset_1\ X1\ (k4_partfun1\ k1_numbers\ (k2_struct_0\ X0))\ (k1_topalg_6\ X0)))\Rightarrow((k9_xtuple_0\ X1 = k1_rcomp_1\ k6_numbers\ np_1)\Rightarrow(m1_borsuk_2\ X1\ X0\ (k2_topalg_6\ X0\ X1)\ (k3_topalg_6\ X0\ X1))))$$