

l33_sppol_1

(TMKpvmtxgcfUYi1UyN5V4JjLzvn8yZrnVys)

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Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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 $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k2_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow \\ & (((v2_tops_2 X1 X0) \wedge (v1_finset_1 X1)) \Rightarrow (v4_pre_topc (k5_setfam_1 \\ & (u1_struct_0 X0) X1) X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(k5_setfam_1 X0 X1 = k3_tarski X1) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow(m1_subset_1 \\ & (ReplSep (toset (\lambda X2 : \iota.m2_subset_1 X2 k1_numbers k5_numbers)) \\ & (\lambda X2 : \iota.(r1_xxreal_0 np_1 X2)\wedge((r1_xxreal_0 (k2_nat_1 \\ & X2 np_1) (k3_finseq_1 X0))\wedge((X2\neq X1)\wedge(X2\neq k2_nat_1 X1 np_1)))) \\ & (\lambda X2 : \iota.k2_topreal1 np_2 X0 X2)) (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 (k15_euclid np_2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow(v1_finset_1 \\ & (ReplSep (toset (\lambda X2 : \iota.m2_subset_1 X2 k1_numbers k5_numbers)) \\ & (\lambda X2 : \iota.(r1_xxreal_0 np_1 X2)\wedge((r1_xxreal_0 (k2_nat_1 \\ & X2 np_1) (k3_finseq_1 X0))\wedge((X2\neq X1)\wedge(X2\neq k2_nat_1 X1 np_1)))) \\ & (\lambda X2 : \iota.k2_topreal1 np_2 X0 X2)))) \end{aligned} \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0)\Rightarrow((v2_pre_topc (k15_euclid X0))\wedge \\ & ((v13_algstr_0 (k15_euclid X0))\wedge((v2_rlvect_1 (k15_euclid X0))\wedge \\ & ((v3_rlvect_1 (k15_euclid X0))\wedge((v4_rlvect_1 (k15_euclid X0))\wedge \\ & ((v5_rlvect_1 (k15_euclid X0))\wedge((v6_rlvect_1 (k15_euclid X0))\wedge \\ & ((v7_rlvect_1 (k15_euclid X0))\wedge((v8_rlvect_1 (k15_euclid X0))\wedge \\ & (v5_rltopsp1 (k15_euclid X0)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((m1_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow(v4_pre_topc (k2_topreal1 np_2 X0 X1) (k15_euclid np_2)) \quad (11)$$

Assume the following.

$$\forall X0.(l1_rltopsp1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l1_pre_topc X0)) \quad (12)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v5_rltopsp1 (k15_euclid X0)) \wedge (l1_rltopsp1 (k15_euclid X0))) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v2_tops_2 X1 X0) \Leftrightarrow (\forall X2. \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X2 \in X1) \Rightarrow (v4_pre_topc \\ X2 X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (17)$$

Theorem 1

$$\begin{aligned} \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (\forall X2.(m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow \\ ((X1 = k3_tarski (ReplSep (toset (\lambda X3 : \iota.m2_subset_1 X3 k1_numbers \\ k5_numbers)) (\lambda X3 : \iota.(r1_xxreal_0 np_1 X3) \wedge ((r1_xxreal_0 \\ (k2_nat_1 X3 np_1) (k3_finseq_1 X0)) \wedge ((X3 \neq X2) \wedge (X3 \neq k2_nat_1 \\ X2 np_1)))) (\lambda X3 : \iota.k2_topreal1 np_2 X0 X3))) \Rightarrow (v4_pre_topc \\ X1 (k15_euclid np_2)))))) \end{aligned}$$