

t40_topalg_6
(TMUYz436MtujeFZNoa9ooMNo1QxNaWkwjGr)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ 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 $k6_topalg_6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_0 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k5_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_topalg_6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_topalg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((X1 = k9_finseq_1 X0) \Leftrightarrow ((k3_finseq_1 X1 = np_1) \wedge (k1_funct_1 X1 np_1 = X0))) \quad (2)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (3)$$

Assume the following.

$$\neg r1_xxreal_0 np_1 np_0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (5)$$

Assume the following.

$$\forall X0. k9_finseq_1 X0 = k5_finseq_1 X0 \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k12_finseq_1 X0 X1 = k5_finseq_1 X1) \quad (8)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\neg v1_xboole_0 (k1_topalg_6 X0)) \quad (9)$$

Assume the following.

$$\forall X0. v1_finseq_1 (k5_finseq_1 X0) \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. \neg v1_xboole_0 (k4_partfun1 X0 X1) \quad (11)$$

Assume the following.

$$\forall X0. (v1_relat_1 (k9_finseq_1 X0)) \wedge (v1_funct_1 (k9_finseq_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (m1_subset_1 (k1_topalg_6 X0) (k1_zfmisc_1 (k4_partfun1 k1_numbers (k2_struct_0 X0)))) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (m2_finseq_1 (k12_finseq_1 X0 X1) X0) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m2_finseq_1 X1 (k1_topalg_6 X0)) \Rightarrow (((\neg r1_xxreal_0 (k3_finseq_1 X1) k6_numbers) \Rightarrow (k6_topalg_6 X0 X1 = k1_funct_1 (k5_topalg_6 X0 X1) (k3_finseq_1 X1))) \wedge ((r1_xxreal_0 (k3_finseq_1 X1) k6_numbers) \Rightarrow (k6_topalg_6 X0 X1 = k1_xboole_0)))))) \quad (15) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m2_finseq_1 X1 (k1_topalg_6 X0)) \Rightarrow (\forall X2. (m2_finseq_1 X2 (k1_topalg_6 X0)) \Rightarrow ((X2 = k5_topalg_6 X0 X1) \Leftrightarrow ((k3_finseq_1 X1 = k3_finseq_1 X2) \wedge ((k1_funct_1 X1 np_1 = k1_funct_1 X2 np_1) \wedge (\forall X3. (v7_ordinal1 X3) \Rightarrow ((r1_xxreal_0 np_1 X3) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X1) X3) \vee (k1_funct_1 X2 (k1_nat_1 X3 np_1) = k4_topalg_6 X0 (k7_partfun1 (k1_topalg_6 X0) X2 X3) (k7_partfun1 (k1_topalg_6 X0) X1 (k1_nat_1 X3 np_1)))))))))) \quad (16) \end{aligned}$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ (m2_subset_1 X1 (k4_partfun1 k1_numbers (k2_struct_0 X0)) (k1_topalg_6 \\ X0)) \Rightarrow (k6_topalg_6 X0 (k12_finseq_1 (k1_topalg_6 X0) X1) = X1))$$