

t52_fintopo6
(TMEoCZXS_n2JbF2sc4BBFgpmXNsWhL2Sm8Cp)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $r3_fintopo6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v2_fintopo6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $k16_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ 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 $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((\\ & v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((r1_xxreal_0 X0 (k3_finseq_1 \\ & X1)) \Rightarrow (k3_finseq_1 (k16_finseq_1 X0 X1) = X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow \\ & (((v2_fintopo6 X1 X0) \wedge (r1_xxreal_0 np_1 X2)) \Rightarrow (v2_fintopo6 (\\ & k17_finseq_1 (u1_struct_0 X0) X2 X1) X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X1 \in k1_relset_1 k5_numbers X0) \Leftrightarrow \\ & ((r1_xxreal_0 np_1 X1) \wedge (r1_xxreal_0 X1 (k3_finseq_1 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarSKI X0 X1)\wedge(r1_tarSKI X1 X2))\Rightarrow(r1_tarSKI X0 X2) \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow(r1_tarSKI (k10_xtuple_0 (k16_finseq_1 X1 X0)) (k10_xtuple_0 X0))) \quad (5)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge((v1_funct_1 X2)\wedge(v1_finseq_1 X2))))\Rightarrow((r1_xxreal_0 X0 X1)\Rightarrow(k1_funct_1 (k16_finseq_1 X1 X2) X0 = k1_funct_1 X2 X0))) \quad (6)$$

Assume the following.

$$((v2_xxreal_0 np_1)\wedge(m2_subset_1 np_1 k1_numbers k5_numbers))\wedge((m1_subset_1 np_1 k5_numbers)\wedge(m1_subset_1 np_1 k1_numbers)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow(r1_xxreal_0 X0 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (9)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1 X1)\wedge(m1_finseq_1 X2 X0))\Rightarrow(k17_finseq_1 X0 X1 X2 = k16_finseq_1 X1 X2) \quad (13)$$

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1\ X2)\wedge(v5_relat_1\ X2\ X1))\Rightarrow((v1_relat_1\ (k5_relat_1\ X2\ X0))\wedge(v5_relat_1\ (k5_relat_1\ X2\ X0)\ X1)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1\ X1\ X0)\Rightarrow((v1_funct_1\ X1)\wedge((v1_finseq_1\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ X0)))))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0)\Rightarrow((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_finseq_1\ X1))) \quad (17)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (18)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_orders_2\ X0))\Rightarrow(\forall X1. \\ &(m2_finseq_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2 \\ &(k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X3.(m1_subset_1\ X3 \\ &(u1_struct_0\ X0))\Rightarrow(\forall X4.(m1_subset_1\ X4\ (u1_struct_0\ X0))\Rightarrow \\ &((r3_fintopo6\ X0\ X1\ X2\ X3\ X4)\Leftrightarrow((v2_fintopo6\ X1\ X0)\wedge((r1_tarski \\ &(k2_relset_1\ (u1_struct_0\ X0)\ X1)\ X2)\wedge((k1_funct_1\ X1\ np_1 = X3)\wedge \\ &((k1_funct_1\ X1\ (k3_finseq_1\ X1) = X4)\wedge(\forall X5.(m2_finseq_1 \\ &X5\ (u1_struct_0\ X0))\Rightarrow((v2_fintopo6\ X5\ X0)\wedge((r1_tarski\ (k2_relset_1 \\ &(u1_struct_0\ X0)\ X5)\ X2)\wedge((k1_funct_1\ X5\ np_1 = X3)\wedge(k1_funct_1 \\ &X5\ (k3_finseq_1\ X5) = X4))))))\Rightarrow(r1_xreal_0\ (k3_finseq_1\ X1)\ (k3_finseq_1 \\ &X5)))))))))) \quad (19) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X1)\wedge((v5_relat_1\ X1\ X0)\wedge(v1_funct_1\ X1)))\Rightarrow(\forall X2.(X2 \in k9_xtuple_0\ X1)\Rightarrow(k7_partfun1\ X0\ X1\ X2 = k1_funct_1\ X1\ X2)) \quad (20)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_finseq_1\ X1)))\Rightarrow(k16_finseq_1\ X0\ X1 = k5_relat_1\ X1\ (k2_finseq_1\ X0))) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (v3_membered X0) \quad (22)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))) \quad (23)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow (v5_relat_1 X1 X0) \quad (25)$$

Assume the following.

$$\forall X0.(v6_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (26)$$

Assume the following.

$$\forall X0.(v3_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_xreal_0 X1)) \quad (27)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X5.(m1_subset_1 X5 k5_numbers) \Rightarrow (((r3_fintopo6 X0 X1 \\ & X2 X3 X4) \wedge ((r1_xxreal_0 np_1 X5) \wedge (r1_xxreal_0 X5 (k3_finseq_1 \\ & X1)))) \Rightarrow ((v2_fintopo6 (k17_finseq_1 (u1_struct_0 X0) X5 X1) X0) \wedge \\ & ((r1_tarski (k2_relset_1 (u1_struct_0 X0) (k17_finseq_1 (u1_struct_0 \\ & X0) X5 X1)) X2) \wedge ((k1_funct_1 (k17_finseq_1 (u1_struct_0 X0) X5 \\ & X1) np_1 = X3) \wedge (k1_funct_1 (k17_finseq_1 (u1_struct_0 X0) X5 X1) \\ & (k3_finseq_1 (k17_finseq_1 (u1_struct_0 X0) X5 X1)) = k7_partfun1 \\ & (u1_struct_0 X0) X1 X5)))))))))) \end{aligned}$$