

t21_topreal1 (TMVRip- mVNVN6RXgnNL5xj8x4LaCqkgJj67W)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m2_finseq1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq1 : \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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 $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (X1 \in k1_rltopsp1 \\ & X0 X1 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq1 X1 X0) \Leftrightarrow (m1_finseq1 X1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow ((v2_pre_topc (k15_euclid X0)) \wedge \\ & ((v13_algstr_0 (k15_euclid X0)) \wedge ((v2_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v3_rlvect_1 (k15_euclid X0)) \wedge ((v4_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v5_rlvect_1 (k15_euclid X0)) \wedge ((v6_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v7_rlvect_1 (k15_euclid X0)) \wedge ((v8_rlvect_1 (k15_euclid X0)) \wedge \\ & (v5_rltopsp1 (k15_euclid X0)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((\neg v2_struct_0\ (k15_euclid\ X0))\wedge (v5_rltopsp1\ (k15_euclid\ X0))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0)\Rightarrow((v1_relat_1\ X1)\wedge (v1_funct_1\ X1)\wedge(v1_finseq_1\ X1))) \quad (5)$$

Assume the following.

$$\forall X0.(l1_rltopsp1\ X0)\Rightarrow((l1_rlvect_1\ X0)\wedge(l1_pre_topc\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1\ X1)\wedge((v5_relat_1\ X1\ X0)\wedge(v1_funct_1\ X1)))\Rightarrow(m1_subset_1\ (k7_partfun1\ X0\ X1\ X2)\ X0) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((v5_rltopsp1\ (k15_euclid\ X0))\wedge (l1_rltopsp1\ (k15_euclid\ X0))) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(m2_finseq_1\ X1\ (u1_struct_0\ (k15_euclid\ X0)))\Rightarrow(\forall X2.(v7_ordinal1\ X2)\Rightarrow(((r1_xxreal_0\ np_1\ X2)\wedge(r1_xxreal_0\ (k1_nat_1\ X2\ np_1)\ (k3_finseq_1\ X1)))\Rightarrow \\ (k2_topreal1\ X0\ X1\ X2 = k1_rltopsp1\ (k15_euclid\ X0)\ (k7_partfun1\ (u1_struct_0\ (k15_euclid\ X0))\ X1\ X2)\ (k7_partfun1\ (u1_struct_0\ (k15_euclid\ X0))\ X1\ (k1_nat_1\ X2\ np_1))))\wedge((\neg(r1_xxreal_0\ np_1\ X2)\wedge(r1_xxreal_0\ (k1_nat_1\ X2\ np_1)\ (k3_finseq_1\ X1)))\Rightarrow(k2_topreal1\ X0\ X1\ X2 = k1_xboole_0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge((v13_algstr_0\ X0)\wedge((v2_rlvect_1\ X0)\wedge((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge \\ ((v5_rlvect_1\ X0)\wedge((v6_rlvect_1\ X0)\wedge((v7_rlvect_1\ X0)\wedge((v8_rlvect_1\ X0)\wedge(l1_rlvect_1\ X0))))))))))\wedge((m1_subset_1\ X1\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X2\ (u1_struct_0\ X0))))\Rightarrow(k1_rltopsp1\ X0\ X1\ X2 = k1_rltopsp1\ X0\ X2\ X1) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1\ X1\ X0)\Rightarrow(v5_relat_1\ X1\ X0) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (m2_finseq_1\ X2\ (u1_struct_0\ (k15_euclid\ X0))) \Rightarrow (((r1_xxreal_0 \\ & np_1\ X1) \wedge (r1_xxreal_0\ (k1_nat_1\ X1\ np_1)\ (k3_finseq_1\ X2))) \Rightarrow \\ & ((k7_partfun1\ (u1_struct_0\ (k15_euclid\ X0))\ X2\ X1 \in k2_topreal1 \\ & X0\ X2\ X1) \wedge (k7_partfun1\ (u1_struct_0\ (k15_euclid\ X0))\ X2\ (k1_nat_1 \\ & X1\ np_1) \in k2_topreal1\ X0\ X2\ X1)))))) \end{aligned}$$