

t58_topreal6

(TMHA6WvokzUgNkGTb8UvEfHRjRMzP3vBByR)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k14_euclid : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k10_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $v7_metric_1 : \iota \Rightarrow o$ be given. Let $v8_metric_1 : \iota \Rightarrow o$ be given. Let $v9_metric_1 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $k3_pcomps_1 : \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $g1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $v1_xbool_0 : \iota \Rightarrow o$ 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 $v1_metric_1 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $g1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $k10_funcsdom : \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v7_metric_1 \\
 & X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow \\
 & (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (v1_xreal_0 \\
 & X2) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 \\
 & X0)))) \Rightarrow ((X3 = k10_metric_1 X0 X1 X2) \Rightarrow (v4_pre_topc X3 (k3_pcomps_1 \\
 & X0))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & ((v4_pre_topc\ X1\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0 \\ & X0))))\Leftrightarrow((v4_pre_topc\ X1\ (g1_pre_topc\ (u1_struct_0\ X0)\ (u1_pre_topc \\ & X0)))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ (g1_pre_topc \\ & (u1_struct_0\ X0)\ (u1_pre_topc\ X0)))))) \end{aligned} \quad (2)$$

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.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & X0)))\Rightarrow(\forall X2.\forall X3.(g1_pre_topc\ X0\ X1 = g1_pre_topc \\ & X2\ X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \end{aligned} \quad (5)$$

Assume the following.

$$(\neg v1_xboole_0\ k4_ordinal1)\wedge(v3_ordinal1\ k4_ordinal1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0)\Rightarrow(((v2_pre_topc\ (k15_euclid\ X0))\wedge \\ & ((v13_algstr_0\ (k15_euclid\ X0))\wedge((v2_rlvect_1\ (k15_euclid\ X0))\wedge \\ & ((v3_rlvect_1\ (k15_euclid\ X0))\wedge((v4_rlvect_1\ (k15_euclid\ X0))\wedge \\ & ((v5_rlvect_1\ (k15_euclid\ X0))\wedge((v6_rlvect_1\ (k15_euclid\ X0))\wedge \\ & ((v7_rlvect_1\ (k15_euclid\ X0))\wedge((v8_rlvect_1\ (k15_euclid\ X0))\wedge \\ & (v5_rltopsp1\ (k15_euclid\ X0)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0)\Rightarrow(((\neg v2_struct_0\ (k14_euclid\ X0))\wedge \\ & ((v1_metric_1\ (k14_euclid\ X0))\wedge((v6_metric_1\ (k14_euclid\ X0))\wedge \\ & ((v7_metric_1\ (k14_euclid\ X0))\wedge((v8_metric_1\ (k14_euclid\ X0))\wedge \\ & (v9_metric_1\ (k14_euclid\ X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_metric_1\ X0)\Rightarrow(((v1_pre_topc\ (k3_pcomps_1\ X0))\wedge \\ & (v2_pre_topc\ (k3_pcomps_1\ X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(m1_subset_1\ (u1_pre_topc\ X0)\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \quad (10)$$

Assume the following.

$$\forall X0.(l1_rltopsp1\ X0)\Rightarrow((l1_rlvect_1\ X0)\wedge(l1_pre_topc\ X0)) \quad (11)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(l1_metric_1\ X0)\Rightarrow(l1_pre_topc\ (k3_pcomps_1\ X0)) \quad (13)$$

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.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((v1_metric_1\ (k14_euclid\ X0))\wedge((v6_metric_1\ (k14_euclid\ X0))\wedge((v7_metric_1\ (k14_euclid\ X0))\wedge((v8_metric_1\ (k14_euclid\ X0))\wedge((v9_metric_1\ (k14_euclid\ X0))\wedge(l1_metric_1\ (k14_euclid\ X0))))))) \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.((v5_rltopsp1\ X1)\wedge(l1_rltopsp1\ X1))\Rightarrow((X1 = k15_euclid\ X0)\Leftrightarrow((g1_pre_topc\ (u1_struct_0\ X1)\ (u1_pre_topc\ X1) = k3_pcomps_1\ (k14_euclid\ X0))\wedge(g1_rlvect_1\ (u1_struct_0\ X1)\ (u2_struct_0\ X1)\ (u1_algstr_0\ X1)\ (u1_rlvect_1\ X1) = k10_funcsdom\ (k2_finseq_1\ X0)))))) \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (18)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow((v1_pre_topc\ X0)\Rightarrow(X0 = g1_pre_topc\ (u1_struct_0\ X0)\ (u1_pre_topc\ X0))) \quad (19)$$

Theorem 1

$$\forall X0.(m2_subset_1\ X0\ k1_numbers\ k5_numbers)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ (k14_euclid\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ (k15_euclid\ X0))))\Rightarrow(\forall X3.(v1_xreal_0\ X3)\Rightarrow((X2 = k10_metric_1\ (k14_euclid\ X0)\ X1\ X3)\Rightarrow(v4_pre_topc\ X2\ (k15_euclid\ X0))))))$$