

t11_topreal1

(TMah7KavzFXdxiWPm2xNsnwYrvmQ6jKfNEC)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $r1_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v8_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (\\ k15_euclid X0))) \Rightarrow ((X1 \neq X2) \Rightarrow (r1_topreal1 (k15_euclid X0) X1 X2 \\ (k1_rltopsp1 (k15_euclid X0) X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ (k1_rltopsp1 X0 X1 X1 = k6_domain_1 (u1_struct_0 X0) X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k2_xboole_0 (k1_tarski X0) X1 = X1) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc\ X0)\wedge((v8_pre_topc\ X0)\wedge(l1_pre_topc \\
& X0)))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0 \\
& X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\
& X0)))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (u1_struct_0\ X0))\Rightarrow(\forall X4. \\
& (m1_subset_1\ X4\ (u1_struct_0\ X0))\Rightarrow(\forall X5.(m1_subset_1\ X5 \\
& (u1_struct_0\ X0))\Rightarrow(((r1_topreal1\ X0\ X3\ X4\ X1)\wedge((r1_topreal1\ X0 \\
& X4\ X5\ X2)\wedge(k9_subset_1\ (u1_struct_0\ X0)\ X1\ X2 = k1_tarski\ X4)))\Rightarrow \\
& (r1_topreal1\ X0\ X3\ X5\ (k4_subset_1\ (u1_struct_0\ X0)\ X1\ X2)))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\
& (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X2. \\
& (m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(\forall X3.(m1_subset_1\ X3 \\
& (u1_struct_0\ X0))\Rightarrow((r1_topreal1\ X0\ X2\ X3\ X1)\Rightarrow((X2 \in X1)\wedge(X3 \in X1))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge(m1_subset_1\ X1\ X0))\Rightarrow \\
& (k6_domain_1\ X0\ X1 = k1_tarski\ X1)
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((m1_subset_1\ X1\ (k1_zfmisc_1 \\
& X0))\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ X0)))\Rightarrow(k4_subset_1\ X0\ X1\ X2 = \\
& k2_xboole_0\ X1\ X2)
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0)\Rightarrow(((v2_pre_topc\ (k15_euclid\ X0))\wedge \\
& ((v13_algstr_0\ (k15_euclid\ X0))\wedge((v2_rlvect_1\ (k15_euclid\ X0))\wedge \\
& ((v3_rlvect_1\ (k15_euclid\ X0))\wedge((v4_rlvect_1\ (k15_euclid\ X0))\wedge \\
& ((v5_rlvect_1\ (k15_euclid\ X0))\wedge((v6_rlvect_1\ (k15_euclid\ X0))\wedge \\
& ((v7_rlvect_1\ (k15_euclid\ X0))\wedge((v8_rlvect_1\ (k15_euclid\ X0))\wedge \\
& (v5_rltopsp1\ (k15_euclid\ X0))))))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0)\Rightarrow(((\neg v2_struct_0\ (k15_euclid\ X0))\wedge \\
& (v5_rltopsp1\ (k15_euclid\ X0)))
\end{aligned} \tag{9}$$

Assume the following.

$$\forall X0.\neg v1_xboole_0\ (k1_tarski\ X0) \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0)\Rightarrow(((v8_pre_topc\ (k15_euclid\ X0))\wedge \\
& (v5_rltopsp1\ (k15_euclid\ X0)))
\end{aligned} \tag{11}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k9_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge \\ ((v5_rlvect_1 X0) \wedge (v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0)))))) \wedge (m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (m1_subset_1 (k1_rltopsp1 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v5_rltopsp1 (k15_euclid X0)) \wedge (l1_rltopsp1 (k15_euclid X0))) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (16)$$

Theorem 1

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid X0)))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (k15_euclid X0))) \Rightarrow (((r1_topreal1 (k15_euclid X0) X3 X2 X1) \wedge (k9_subset_1 (u1_struct_0 (k15_euclid X0)) (k1_rltopsp1 (k15_euclid X0) X4 X3) X1 = k1_tarski X3)) \Rightarrow (r1_topreal1 (k15_euclid X0) X4 X2 (k4_subset_1 (u1_struct_0 (k15_euclid X0)) (k1_rltopsp1 (k15_euclid X0) X4 X3) X1)))))))))) \end{aligned}$$