

t24_hausdorf
(TMHKDf7msky1n8hnbjsp1JuoYPqD2fKd9j4)

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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 $v1_xboole_0 : \iota \Rightarrow o$ 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 $k3_pcomps_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k7_rerset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_topmetr : \iota$ be given. Let $k5_weierstr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_compts_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_xxreal_2 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_xxreal_2 : \iota \Rightarrow o$ be given. Let $k1_weierstr : \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Let $v3_xxreal_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 \\
& X0) (u1_struct_0 k3_topmetr)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\
& k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 k3_topmetr)))))) \Rightarrow \\
& (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& (((v2_compts_1 X2 X0) \wedge (v5_pre_topc X1 X0 k3_topmetr)) \Rightarrow (v2_compts_1 \\
& (k7_rerset_1 (u1_struct_0 X0) (u1_struct_0 k3_topmetr) X1 X2) \\
& k3_topmetr))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\
& ((v2_compts_1 X0 k3_topmetr) \Rightarrow (v5_xxreal_2 (k1_weierstr X0)))
\end{aligned} \tag{2}$$

Assume the following.

$$v3_membered k1_numbers \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge \\ & ((v7_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 \\ & X0))))))\wedge((\neg v1_xboole_0 X1)\wedge((v2_compts_1 X1 (k3_pcomps_1 X0))\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 X0))))))\Rightarrow \\ & ((v1_funct_1 (k5_weierstr X0 X1))\wedge((v1_funct_2 (k5_weierstr \\ & X0 X1) (u1_struct_0 (k3_pcomps_1 X0)) (u1_struct_0 k3_topmetr))\wedge \\ & (v5_pre_topc (k5_weierstr X0 X1) (k3_pcomps_1 X0) k3_topmetr))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_metric_1 X0))\Rightarrow(\neg v2_struct_0 (k3_pcomps_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0)\Rightarrow((v1_pre_topc (k3_pcomps_1 X0))\wedge (v2_pre_topc (k3_pcomps_1 X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(m1_subset_1 (k7_relset_1 \\ & X0 X1 X2 X3) (k1_zfmisc_1 X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v6_metric_1 X0)\wedge \\ & ((v7_metric_1 X0)\wedge((v8_metric_1 X0)\wedge((v9_metric_1 X0)\wedge(l1_metric_1 \\ & X0))))))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 \\ & X0))))\Rightarrow((v1_funct_1 (k5_weierstr X0 X1))\wedge((v1_funct_2 (k5_weierstr \\ & X0 X1) (u1_struct_0 (k3_pcomps_1 X0)) (u1_struct_0 k3_topmetr))\wedge \\ & (m1_subset_1 (k5_weierstr X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & (k3_pcomps_1 X0)) (u1_struct_0 k3_topmetr)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0)\Rightarrow(l1_pre_topc (k3_pcomps_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr)))\Rightarrow (k1_weierstr X0 = X0) \quad (10)$$

Assume the following.

$$\forall X0.(v2_membered X0)\Rightarrow((v5_xxreal_2 X0)\Leftrightarrow((v3_xxreal_2 X0)\wedge(v4_xxreal_2 X0))) \quad (11)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v2_membered\ X0) \quad (12)$$

Assume the following.

$$\forall X0.(v2_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v2_membered\ X1)) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0)\wedge((v6_metric_1\ X0)\wedge((v7_metric_1\ X0)\wedge((v8_metric_1\ X0)\wedge((v9_metric_1\ X0)\wedge(l1_metric_1\ X0))))))\Rightarrow \\ & (\forall X1.((\neg v1_xboole_0\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ (k3_pcomps_1\ X0))))))\Rightarrow(\forall X2.((\neg v1_xboole_0\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ (k3_pcomps_1\ X0))))))\Rightarrow \\ & (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ k1_numbers))\Rightarrow(((X3 = k7_reset_1\ (u1_struct_0\ (k3_pcomps_1\ X0))\ (u1_struct_0\ k3_topmetr)\ (k5_weierstr\ X0\ X1)\ X2)\wedge((v2_compts_1\ X1\ (k3_pcomps_1\ X0))\wedge(v2_compts_1\ X2\ (k3_pcomps_1\ X0))))\Rightarrow(v4_xreal_2\ X3)))))) \end{aligned}$$