

t12\_hausdorf (TMd-  
dpS1DxnD84cgA7YZv1DGRg8wGSJVoPWn)

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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  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_topmetr : \iota$  be given. Let  $k4\_weierstr : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_xreal\_2 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $m2\_xreal\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((\neg v2\_struct\_0 X0) \wedge ((v6\_metric\_1 X0) \wedge ((v7\_metric\_1 X0) \wedge ((v8\_metric\_1 X0) \wedge ((v9\_metric\_1 X0) \wedge (l1\_metric\_1 X0)))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k3\_pcomps\_1 X0)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ & (v1\_xreal\_0 X3) \Rightarrow ((X3 \in k7\_relset\_1 (u1\_struct\_0 (k3\_pcomps\_1 X0)) (u1\_struct\_0 k3\_topmetr) (k4\_weierstr X0 X2) X1) \Rightarrow (r1\_xreal\_0 \\ & k6\_numbers X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0) \wedge ((v1\_xcmplx\_0 X0) \wedge ((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X0))) \quad (5)$$

Assume the following.

$$\forall X0.(v2\_membered\ X0)\Rightarrow((v3\_xxreal\_2\ X0)\Leftrightarrow(\exists X1.(v1\_xreal\_0\ X1)\wedge(m2\_xxreal\_2\ X1\ X0))) \quad (6)$$

Assume the following.

$$\forall X0.(v2\_membered\ X0)\Rightarrow(\forall X1.(v1\_xxreal\_0\ X1)\Rightarrow((m2\_xxreal\_2\ X1\ X0)\Leftrightarrow(\forall X2.(v1\_xxreal\_0\ X2)\Rightarrow((X2 \in X0)\Rightarrow(r1\_xxreal\_0\ X1\ X2)))))) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k1\_numbers))\Rightarrow(v3\_membered\ X0) \quad (8)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v2\_membered\ X0) \quad (9)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \quad (10)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v6\_metric\_1\ X0)\wedge((v7\_metric\_1\ X0)\wedge((v8\_metric\_1\ X0)\wedge((v9\_metric\_1\ X0)\wedge(l1\_metric\_1\ X0))))))\Rightarrow \\ &\quad (\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k3\_pcomps\_1\ X0))))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ k1\_numbers))\Rightarrow((X3 = k7\_relset\_1\ (u1\_struct\_0\ (k3\_pcomps\_1\ X0))\ (u1\_struct\_0\ k3\_topmetr)\ (k4\_weierstr\ X0\ X2)\ X1)\Rightarrow(v3\_xxreal\_2\ X3)))))) \end{aligned}$$