

t16_frechet2

(TMQGVRC4aVzepH8D21FxABiyQBEdaBydTRg)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $k5_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_valued_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_frechet : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_frechet : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0)))))) \Rightarrow (\forall X2. (m2_valued_0 X2 (u1_struct_0 X0) X1) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_frechet X0 X1 X3) \Rightarrow (r1_frechet \\ & X0 X2 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers X0)))))) \Rightarrow (\forall X2. (m2_valued_0 X2 X0 X1) \Rightarrow ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 k5_numbers X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(l1_struct_0\ X0) \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge(l1_pre_topc\ X0))\wedge \\ &((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ k5_numbers\ (u1_struct_0\ X0))\wedge \\ &(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0 \\ &X0))))))\Rightarrow(m1_subset_1\ (k2_frechet\ X0\ X1)\ (k1_zfmisc_1\ (u1_struct_0 \\ &X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ &((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ k5_numbers\ (u1_struct_0\ X0))\wedge \\ &(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0 \\ &X0))))))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\ &X0)))\Rightarrow((X2 = k2_frechet\ X0\ X1)\Leftrightarrow(\forall X3.(m1_subset_1\ X3\ (u1_struct_0 \\ &X0))\Rightarrow((X3 \in X2)\Leftrightarrow(r1_frechet\ X0\ X1\ X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski\ X0\ X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \quad (8)$$

Theorem 1

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ &((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ k5_numbers\ (u1_struct_0\ X0))\wedge \\ &(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0 \\ &X0))))))\Rightarrow(\forall X2.(m2_valued_0\ X2\ (u1_struct_0\ X0)\ X1)\Rightarrow(r1_tarski \\ &(k2_frechet\ X0\ X1)\ (k2_frechet\ X0\ X2)))) \end{aligned}$$