

t5_frechet2

(TMHNST4EnXeU2Yzyi7Bpzw2dy3nr4YSjGxn)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $k5_numbers : \iota$ 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 $k2_frechet : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_pre_topc : \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_frechet : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\ & ((r2_funct_2 k5_numbers (u1_struct_0 X0) X2 (k8_funcop_1 (u1_struct_0 \\ & X0) k5_numbers X1)) \Rightarrow (r1_frechet X0 X2 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\neg(\neg v7_pre_topc X0) \wedge (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0)))))) \Rightarrow (\neg(r2_funct_2 k5_numbers (u1_struct_0 X0) X3 (k8_funcop_1 \\ & (u1_struct_0 X0) k5_numbers X1)) \wedge ((X1 \neq X2) \wedge (r1_frechet X0 X3 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1.(((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \wedge \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0)))))) \Rightarrow (m1_subset_1 (k2_frechet X0 X1) (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\
& ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow ((X2 = k2_frechet X0 X1) \Leftrightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& X0)) \Rightarrow ((X3 \in X2) \Leftrightarrow (r1_frechet X0 X1 X3))))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow ((\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\
& (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\
& (((X2 \in k2_frechet X0 X1) \wedge (X3 \in k2_frechet X0 X1)) \Rightarrow (X2 = X3)))))) \Rightarrow \\
& (v7_pre_topc X0)
\end{aligned}$$