

t29_frechet2

(TMcuqokBNBzn9PaVxtw5RiCH7iiqehFQsPa)

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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 $v1_funct_1 : \iota \Rightarrow o$ 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 $k3_pcomps_1 : \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_tbsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_frechet : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_metric_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_frechet : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k2_pcomps_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v7_metric_1 \\
 & X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow \\
 & (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. ((\\
 & v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 X0)) \wedge \\
 & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
 & X0)))))) \Rightarrow ((r1_metric_6 X0 X2 X1) \Rightarrow (v2_tbsp_1 X2 X0))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v7_metric_1 \\
& X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers (u1_struct_0 (k3_pcomps_1 \\
& X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\
& u1_struct_0 (k3_pcomps_1 X0)))))) \Rightarrow (\forall X4.(m1_subset_1 \\
& X4 (u1_struct_0 (k3_pcomps_1 X0)) \Rightarrow ((r1_funct_2 k5_numbers \\
& (u1_struct_0 X0) k5_numbers (u1_struct_0 (k3_pcomps_1 X0)) X1 \\
& X3) \wedge (X2 = X4)) \Rightarrow ((r1_metric_6 X0 X1 X2) \Leftrightarrow (r1_frechet (k3_pcomps_1 \\
& X0) X3 X4))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow ((u1_struct_0 X0 = u1_struct_0 (k3_pcomps_1 X0)) \wedge (u1_pre_topc (k3_pcomps_1 X0) = k2_pcomps_1 X0)) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v7_metric_1 \\
& X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow (\neg (v2_tbsp_1 X1 X0) \wedge (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\neg r1_metric_6 X0 X1 X2))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
& ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X3) \wedge (((v1_funct_1 X4) \wedge ((\\
& v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 \\
& X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow ((r1_funct_2 X0 X1 \\
& X2 X3 X4 X5) \Leftrightarrow (X4 = X5))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow (l1_struct_0 X0) \tag{7}$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow (l1_pre_topc (k3_pcomps_1 X0)) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.((v1_funct_1\ X1) \wedge ((\\
& v1_funct_2\ X1\ k5_numbers\ (u1_struct_0\ X0)) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ k5_numbers\ (u1_struct_0\ X0)))))) \Rightarrow ((v2_frechet \\
& X1\ X0) \Leftrightarrow (\exists X2.(m1_subset_1\ X2\ (u1_struct_0\ X0)) \wedge (r1_frechet \\
& X0\ X1\ X2)))) \\
& \tag{9}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0) \wedge ((v6_metric_1\ X0) \wedge ((v7_metric_1 \\
& X0) \wedge ((v8_metric_1\ X0) \wedge ((v9_metric_1\ X0) \wedge (l1_metric_1\ X0)))))) \Rightarrow \\
& (\forall X1.((v1_funct_1\ X1) \wedge ((v1_funct_2\ X1\ k5_numbers\ (u1_struct_0 \\
& X0)) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X2.((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ k5_numbers \\
& (u1_struct_0\ (k3_pcomps_1\ X0)) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ k5_numbers\ (u1_struct_0\ (k3_pcomps_1\ X0)))))) \Rightarrow \\
& ((r1_funct_2\ k5_numbers\ (u1_struct_0\ X0)\ k5_numbers\ (u1_struct_0 \\
& (k3_pcomps_1\ X0))\ X1\ X2) \Rightarrow ((v2_tbsp_1\ X1\ X0) \Leftrightarrow (v2_frechet\ X2\ (k3_pcomps_1 \\
& X0))))))
\end{aligned}$$