

t22_frechet (TMcxxN-
hah5Nd8p4NaNkKQHiGa84Q6CxUVRa)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X1 \in X0) \Rightarrow (k1_funct_1 (k2_funcop_1 X0 X2) X1 = X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))\wedge((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((r2_funct_2 X0 X1 X2 \\ & X3)\Leftrightarrow(X2 = X3)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 \\ & X2 X0))\Rightarrow(k8_funcop_1 X0 X1 X2 = k2_funcop_1 X1 X2) \end{aligned} \quad (8)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & (((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))\wedge(m1_subset_1 X3 X0)))\Rightarrow(k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (10)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 \\ & X2 X0))\Rightarrow(((v1_funct_1 (k8_funcop_1 X0 X1 X2))\wedge((v1_funct_2 (k8_funcop_1 \\ & X0 X1 X2) X1 X0)\wedge(m1_subset_1 (k8_funcop_1 X0 X1 X2) (k1_zfmisc_1 \\ & (k2_zfmisc_1 X1 X0)))))) \end{aligned} \quad (12)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.((v1_funct_1\ X1) \wedge ((\\
& v1_funct_2\ X1\ k5_numbers\ (u1_struct_0\ X0)) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ k5_numbers\ (u1_struct_0\ X0)))))) \Rightarrow (\forall X2.(\\
& m1_subset_1\ X2\ (u1_struct_0\ X0)) \Rightarrow ((r1_frechet\ X0\ X1\ X2) \Leftrightarrow (\forall X3. \\
& (m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\neg(v3_pre_topc \\
& X3\ X0) \wedge ((X2 \in X3) \wedge (\forall X4.(m2_subset_1\ X4\ k1_numbers\ k5_numbers) \Rightarrow \\
& (\exists X5.(m2_subset_1\ X5\ k1_numbers\ k5_numbers) \wedge ((r1_xxreal_0 \\
& X4\ X5) \wedge (\neg k3_funct_2\ k5_numbers\ (u1_struct_0\ X0)\ X1\ X5 \in X3)))))))))) \\
& \hspace{15em} (14)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& X0)) \Rightarrow (v1_xboole_0\ X1)) \hspace{10em} (15)
\end{aligned}$$

Theorem 1

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