

t6_fintopo2
(TMFSn1PcWkUTpkH8CTMu2QTgLiyPqqv9tHb)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_fintopo2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $k1_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k2_xboolean : \iota$ be given. Let $k7_margrel1 : \iota$ be given. Let $k1_xboolean : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ 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.

$$\neg v1_xboole_0 np_1 \quad (2)$$

Assume the following.

$$k8_margrel1 = k2_xboolean \quad (3)$$

Assume the following.

$$k7_margrel1 = k1_xboolean \quad (4)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (5)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (6)$$

Assume the following.

$$k2_xboolean = np_1 \quad (7)$$

Assume the following.

$$k1_xboolean = k6_numbers \quad (8)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (\\
& u1_struct_0 X0))) \Rightarrow (((X2 \in k1_fin_topo X0 X1) \wedge (X2 \in X3)) \Rightarrow (k1_fintopo2 \\
& X0 X1 X2 X3 = k8_margrel1)) \wedge ((\neg(X2 \in k1_fin_topo X0 X1) \wedge (X2 \in X3)) \Rightarrow \\
& (k1_fintopo2 X0 X1 X2 X3 = k7_margrel1))))))
\end{aligned} \tag{9}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (\\
& u1_struct_0 X0))) \Rightarrow ((k1_fintopo2 X0 X1 X2 X3 = k8_margrel1) \Leftrightarrow ((X2 \in \\
& k1_fin_topo X0 X1) \wedge (X2 \in X3))))))
\end{aligned}$$