

t9_fintopo2
(TMGsyEJRusftCZjhJf3tQBNF91Ek7rGBzZ4)

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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 $k3_fintopo2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $k1_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_fintopo2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_margrel1 : \iota$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (\\ & u1_struct_0 X0))) \Rightarrow ((k2_fintopo2 X0 X1 X2 X3 = k8_margrel1) \Leftrightarrow ((X2 \in \\ & k1_fin_topo X0 X1) \wedge (X2 \in k3_subset_1 (u1_struct_0 X0) X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((l1_orders_2 X0) \wedge (m1_subset_1 X1 (u1_struct_0 \\ & X0))) \Rightarrow (m1_subset_1 (k1_fin_topo X0 X1) (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (((X2 \in k1_fin_topo X0 X1) \Rightarrow (k3_fintopo2 X0 X1 \\ & X2 = k8_margrel1)) \wedge ((\neg X2 \in k1_fin_topo X0 X1) \Rightarrow (k3_fintopo2 X0 X1 \\ & X2 = k7_margrel1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (\\
& u1_struct_0 X0))) \Rightarrow (((X2 \in k1_fin_topo X0 X1) \wedge (X2 \in k3_subset_1 \\
& (u1_struct_0 X0) X3)) \Rightarrow (k2_fintopo2 X0 X1 X2 X3 = k8_margrel1)) \wedge \\
& ((\neg (X2 \in k1_fin_topo X0 X1) \wedge (X2 \in k3_subset_1 (u1_struct_0 X0) X3)) \Rightarrow \\
& (k2_fintopo2 X0 X1 X2 X3 = k7_margrel1))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (k1_fin_topo X0 X1 = k6_eqrel_1 (u1_struct_0 X0) (u1_struct_0 \\
& X0) (u1_orders_2 X0) X1))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow ((k3_fintopo2 X0 X1 X2 = k8_margrel1) \Leftrightarrow (X2 \in k1_fin_topo \\
& X0 X1))))
\end{aligned}$$