

t1_fintopo3
(TMK1eyuyoJvgTpJgN2zN9AwNcWMGSSm8vhA)

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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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\ (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X1 \in k12_fin_topo X0 X2) \Leftrightarrow (\exists X3. \\ (m1_subset_1 X3 (u1_struct_0 X0)) \wedge ((X3 \in X2) \wedge (X1 \in k1_fin_topo \\ X0 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((v3_orders_2 X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (X1 \in k1_fin_topo X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (4)$$

Theorem 1

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_orders_2 \\ X0) \Rightarrow (r1_tarski X1 (k12_fin_topo X0 X1)))) \end{aligned}$$