

t39_fintopo6 (TMN- guwyXqmR8d9BAxwQcCsUrHvn11MKi2b4)

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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 $v1_fin_topo : \iota \Rightarrow o$ be given. Let $r1_fintopo6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_fin_topo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_fin_topo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_orders_2 \\ & X0) \wedge ((v1_fin_topo X0) \wedge (v4_fin_topo X1 X0)))) \Rightarrow (v4_fin_topo (k9_fin_topo \\ & X0 X1) X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (r1_tarski X1 (k9_fin_topo X0 X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ & (k9_fin_topo X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r1_fintopo6 \\ & X0 X1) \Leftrightarrow ((v4_fin_topo X1 X0) \wedge (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (((v4_fin_topo X2 X0) \wedge (r1_tarski X1 X2)) \Rightarrow \\ & (X1 = X2)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_fin_topo \\ & X1 X0) \Leftrightarrow (X1 = k9_fin_topo X0 X1))) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((v3_orders_2 \\ & X0) \wedge ((v1_fin_topo X0) \wedge (r1_fintopo6 X0 X1))) \Rightarrow (v3_fin_topo X1 \\ & X0))) \end{aligned}$$