

t23_fintopo6
(TMaHKWU4XRRZaBCQqFJWtUYgDr93VgS4PHM)

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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 $r1_fintopo4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski\ X0\ X1)\wedge(r1_xboole_0\ X1\ X2))\Rightarrow(r1_xboole_0\ X0\ X2) \quad (1)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_orders_2\ X0))\Rightarrow(\forall X1. (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(k5_fin_topo\ X0\ X1 = k9_subset_1\ (u1_struct_0\ X0)\ (k9_fin_topo\ X0\ X1)\ (k9_fin_topo\ X0\ (k3_subset_1\ (u1_struct_0\ X0)\ X1)))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski\ (k3_xboole_0\ X0\ X1)\ X0 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ X0))\Rightarrow(k9_subset_1\ X0\ X1\ X2 = k3_xboole_0\ X1\ X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge(l1_orders_2\ X0))\wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow(m1_subset_1\ (k9_fin_topo\ X0\ X1)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge(l1_orders_2\ X0))\wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow(m1_subset_1\ (k5_fin_topo\ X0\ X1)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k7_fin_topo \\ & X0 X1 = k9_subset_1 (u1_struct_0 X0) (k3_subset_1 (u1_struct_0 \\ & X0) X1) (k5_fin_topo X0 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r1_fintopo4 \\ & X0 X1 X2) \Leftrightarrow ((r1_xboole_0 (k9_fin_topo X0 X1) X2) \wedge (r1_xboole_0 X1 \\ & (k9_fin_topo X0 X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k9_subset_1 X0 X2 X1) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r1_fintopo4 \\ & X0 X1 X2) \Rightarrow (r1_xboole_0 (k7_fin_topo X0 X1) X2)))) \end{aligned}$$