

l10_fintopo6 (TM- SoCDv3Gdz3BWXeQ1UXprxbJkkg4P3iSK4)

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Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_fintopo6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k3_xboole_0 X0 X1 = X0) \quad (2)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (k6_eqrel_1 X0 X1 X2 X3 = k9_relat_1 X2 X3) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \Rightarrow (\forall X2. \forall X3. (g1_orders_2 X0 X1 = g1_orders_2 X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \quad (5)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (m1_subset_1 (u1_orders_2 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((l1_orders_2 X0)\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k1_fin_topo X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))\Rightarrow((v1_orders_2 (g1_orders_2 X0 X1))\wedge(l1_orders_2 (g1_orders_2 X0 X1))) \quad (8)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(l1_orders_2 X1)\Rightarrow((m1_fintopo6 X1 X0)\Leftrightarrow((r1_tarski (u1_struct_0 X1) (u1_struct_0 X0))\wedge(\forall X2.(m1_subset_1 X2 (u1_struct_0 X1))\Rightarrow((X2 \in u1_struct_0 X1)\Rightarrow(k1_fin_topo X1 X2 = k3_xboole_0 (k9_relat_1 (u1_orders_2 X0) X2) (u1_struct_0 X1))))))) \quad (9)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k1_fin_topo X0 X1 = k6_eqrel_1 (u1_struct_0 X0) (u1_struct_0 X0) (u1_orders_2 X0) X1)) \quad (10)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v1_orders_2 X0)\Rightarrow(X0 = g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0))) \quad (11)$$

Theorem 1

$$\forall X0.(l1_orders_2 X0)\Rightarrow(m1_fintopo6 (g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0)) X0)$$