

t19_fintopo3

(TMNiDyzVqiUb6UHhYjtiiYxjXDVVFKZLEsE)

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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 $k5_fintopo3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_fintopo3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k8_fin_topo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \tag{1}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{2}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 \ X0) \wedge \\ & (((v1_funct_1 \ X2) \wedge ((v1_funct_2 \ X2 \ X0 \ X1) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1)))))) \wedge (m1_subset_1 \ X3 \ X0))) \Rightarrow (k3_funct_2 \ X0 \\ & \ X1 \ X2 \ X3 = k1_funct_1 \ X2 \ X3) \end{aligned} \tag{4}$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_funct_1 \\ & (k4_fintopo3 X0 X1)) \wedge ((v1_funct_2 (k4_fintopo3 X0 X1) k5_numbers \\ & (k1_zfmisc_1 (u1_struct_0 X0))) \wedge (m1_subset_1 (k4_fintopo3 X0 \\ & X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k1_zfmisc_1 (u1_struct_0 \\ & X0))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (v7_ordinal1 X2) \Rightarrow (k5_fintopo3 X0 X1 X2 = k1_funct_1 (k4_fintopo3 \\ & X0 X1) X2))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (\\ & k1_zfmisc_1 (u1_struct_0 X0))))))) \Rightarrow ((X2 = k4_fintopo3 X0 X1) \Leftrightarrow \\ & ((\forall X3. (m1_subset_1 X3 k5_numbers) \Rightarrow (\forall X4. (m1_subset_1 \\ & X4 (k1_zfmisc_1 (u1_struct_0 X0)) \Rightarrow ((X4 = k3_funct_2 k5_numbers \\ & (k1_zfmisc_1 (u1_struct_0 X0)) X2 X3) \Rightarrow (k3_funct_2 k5_numbers \\ & (k1_zfmisc_1 (u1_struct_0 X0)) X2 (k2_nat_1 X3 np_1) = k8_fin_topo \\ & X0 X4)))) \wedge (k3_funct_2 k5_numbers (k1_zfmisc_1 (u1_struct_0 X0)) \\ & X2 k6_numbers = X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k5_fintopo3 \\ & X0 X1 k6_numbers = X1)) \end{aligned}$$