

t23_topalg_6
(TMTz92ZeN5oSKfMHPcGMY2n9BvBTTRGXdSB)

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Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_topalg_6 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v4_topalg_6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_topalg_2 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\neg v1_xboole_0 (k1_topalg_6 X0)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \neg v1_xboole_0 (k4_partfun1 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (m1_subset_1 (k1_topalg_6 X0) (k1_zfmisc_1 \\ (k4_partfun1 k1_numbers (k2_struct_0 X0)))) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_pre_topc X0) \Rightarrow (k1_topalg_6 X0 = ReplSep (toset (\\ \lambda X1 : \iota. m1_subset_1 X1 (k4_partfun1 k1_numbers (k2_struct_0 \\ X0)))) (\lambda X1 : \iota. (v1_funct_1 X1) \wedge ((v4_topalg_6 X1 X0) \wedge (m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 k2_topalg_2) (u1_struct_0 \\ X0)))))) (\lambda X1 : \iota. X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow \\ & (X1 \in X0))) \wedge ((v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow (v1_xboole_0 \\ & X1))) \end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m2_subset_1 X1 (k4_partfun1 \\ & k1_numbers (k2_struct_0 X0)) (k1_topalg_6 X0)) \Rightarrow ((v1_funct_1 \\ & X1) \wedge ((v4_topalg_6 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 k2_topalg_2) (u1_struct_0 X0))))))) \end{aligned}$$