

t57_kurato_1 (TMWbovcHKS- dMS7Bx53eM4yVyFhvFAuuVrP)

October 27, 2020

Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v3_setfam_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_topmetr : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (\neg (\neg r1_xboole_0 X0 X1) \wedge (\forall X2. \neg (X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg (\exists X2. (X2 \in X0) \wedge (X2 \in X1))) \wedge (r1_xboole_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow (\neg (v4_pre_topc X0 k3_topmetr) \wedge ((v3_pre_topc X0 k3_topmetr) \wedge ((X0 \neq k1_xboole_0) \wedge (X0 \neq k1_numbers)))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (5)$$

Assume the following.

$$u1_struct_0 k3_topmetr = k1_numbers \quad (6)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (7)$$

Assume the following.

$$(v2_pre_topc\ k3_topmetr)\wedge(l1_pre_topc\ k3_topmetr) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((v2_tops_2\ X1\ X0)\Leftrightarrow(\forall X2. \\ (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow((X2\in X1)\Rightarrow(v4_pre_topc \\ X2\ X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((v1_tops_2\ X1\ X0)\Leftrightarrow(\forall X2. \\ (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow((X2\in X1)\Rightarrow(v3_pre_topc \\ X2\ X0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ X0)))\Rightarrow((v3_setfam_1\ X1\ X0)\Leftrightarrow(\neg X0\in X1)) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0\ X0)\wedge(v1_setfam_1\ X0))\Rightarrow(\forall X1. \\ (m1_subset_1\ X1\ X0)\Rightarrow(\neg v1_xboole_0\ X1)) \quad (12)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_setfam_1\ X0)\wedge((v3_setfam_1\ X0\ (u1_struct_0\ k3_topmetr))\wedge \\ (m1_subset_1\ X0\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ k3_topmetr))))))\Rightarrow \\ (\forall X1.((v1_setfam_1\ X1)\wedge((v3_setfam_1\ X1\ (u1_struct_0 \\ k3_topmetr))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0 \\ k3_topmetr))))))\Rightarrow(((v1_tops_2\ X0\ k3_topmetr)\wedge(v2_tops_2\ X1 \\ k3_topmetr))\Rightarrow(r1_xboole_0\ X0\ X1))) \end{aligned}$$