

t9_kurato_1
(TMRBFX18zGvZTZ78oX1zvi6cELX3VioifmF)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ 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 $k5_kurato_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k5_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k1_tops_1 X0 \\ (k2_pre_topc X0 X1) = k1_tops_1 X0 (k2_pre_topc X0 (k1_tops_1 X0 \\ (k2_pre_topc X0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (k2_pre_topc X0 (k1_tops_1 X0 X1) = k2_pre_topc \\ X0 (k1_tops_1 X0 (k2_pre_topc X0 (k1_tops_1 X0 X1)))))) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((l1_pre_topc X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))) \Rightarrow (k2_pre_topc X0 (k2_pre_topc X0 X1) = k2_pre_topc \\ X0 X1) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow(k1_tops_1\ X0\ (k1_tops_1\ X0\ X1) = k1_tops_1\ X0\ X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow(m1_subset_1\ (k2_pre_topc\ X0\ X1)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow(m1_subset_1\ (k1_tops_1\ X0\ X1)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0)))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(k5_kurato_1\ X0\ X1 = k5_enumset1\ X1\ (k1_tops_1\ X0\ X1)\ (k2_pre_topc\ X0\ X1)\ (k1_tops_1\ X0\ (k2_pre_topc\ X0\ X1))\ (k2_pre_topc\ X0\ (k1_tops_1\ X0\ X1))\ (k2_pre_topc\ X0\ (k1_tops_1\ X0\ (k2_pre_topc\ X0\ X1)))\ (k1_tops_1\ X0\ (k2_pre_topc\ X0\ (k1_tops_1\ X0\ X1))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.\forall X6.\forall X7.(X7 = k5_enumset1\ X0\ X1\ X2\ X3\ X4\ X5\ X6)\Leftrightarrow(\forall X8.(X8 \in X7)\Leftrightarrow(\neg(X8\neq X0)\wedge((X8\neq X1)\wedge((X8\neq X2)\wedge((X8\neq X3)\wedge((X8\neq X4)\wedge((X8\neq X5)\wedge(X8\neq X6)))))))) \quad (11)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0)))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow((X2 \in k5_kurato_1\ X0\ X1)\Rightarrow((k1_tops_1\ X0\ X2 \in k5_kurato_1\ X0\ X1)\wedge(k2_pre_topc\ X0\ X2 \in k5_kurato_1\ X0\ X1))))))$$