

t4_kurato_1

(TMdmM86c2BLvujcz9UFXdAWPpv4h5NRb8Zg)

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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 $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_kurato_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow ((X1 \in k2_kurato_1 X0 X1) \wedge ((k2_pre_topc X0 X1 \in k2_kurato_1 \\ & X0 X1) \wedge ((k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 X1) \in k2_kurato_1 \\ & X0 X1) \wedge ((k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ & X0 X1)) \in k2_kurato_1 X0 X1) \wedge ((k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ & X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 X1))) \in k2_kurato_1 \\ & X0 X1) \wedge ((k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ & X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 X1)))) \in k2_kurato_1 \\ & X0 X1) \wedge (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 \\ & (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ & (k2_pre_topc X0 X1)))))) \in k2_kurato_1 X0 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k2_pre_topc \\ & X0 (k3_subset_1 (u1_struct_0 X0) X1) = k3_subset_1 (u1_struct_0 \\ & X0) (k1_tops_1 X0 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 (k3_subset_1 X0 X1) = X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k3_subset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((l1_pre_topc X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ &(u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k2_pre_topc X0 X1) (k1_zfmisc_1 \\ &(u1_struct_0 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc \\ &X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ &X0)))\Rightarrow(k2_kurato_1 X0 X1 = k2_xboole_0 (k5_enumset1 X1 (k2_pre_topc \\ &X0 X1) (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 X1)) (k2_pre_topc \\ &X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 X1)))) (k3_subset_1 \\ &(u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ &(k2_pre_topc X0 X1)))) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 \\ &X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ &X0 X1)))) (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 \\ &(u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ &(k2_pre_topc X0 X1)))))) (k5_enumset1 (k3_subset_1 (u1_struct_0 \\ &X0) X1) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1)) (k3_subset_1 \\ &(u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ &X1))) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ &X0 (k3_subset_1 (u1_struct_0 X0) X1)))) (k3_subset_1 (u1_struct_0 \\ &X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ &X0 (k3_subset_1 (u1_struct_0 X0) X1)))))) (k2_pre_topc X0 (k3_subset_1 \\ &(u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ &(k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1)))))) (k3_subset_1 \\ &(u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ &(k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 \\ &(k3_subset_1 (u1_struct_0 X0) X1)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.(l1_pre_topc X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ &(u1_struct_0 X0)))\Rightarrow(k1_tops_1 X0 X1 = k3_subset_1 (u1_struct_0 \\ &X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow ((k3_subset_1 (u1_struct_0 X0) X1) \in k2_kurato_1 X0 X1) \wedge (\\ & (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1) \in k2_kurato_1 \\ & X0 X1) \wedge ((k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 \\ & (u1_struct_0 X0) X1)) \in k2_kurato_1 X0 X1) \wedge ((k2_pre_topc X0 (k3_subset_1 \\ & (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ & X1))) \in k2_kurato_1 X0 X1) \wedge ((k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ & X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 \\ & (u1_struct_0 X0) X1)))) \in k2_kurato_1 X0 X1) \wedge ((k2_pre_topc X0 (\\ & k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 \\ & X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1)))))) \in k2_kurato_1 \\ & X0 X1) \wedge (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 \\ & (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ & (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1)))))) \in k2_kurato_1 \\ & X0 X1)))))) \end{aligned}$$