

t2_kurato_1 (TMHJP-
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October 27, 2020

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 $k2_kurato_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_kurato_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k3_subset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (k2_kurato_1 X0 X1 = k2_xboole_0 (k5_enumset1 X1 (k2_pre_topc \\ & X0 X1) (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 X1)) (k2_pre_topc \\ & X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 X1))) (k3_subset_1 \\ & (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ & (k2_pre_topc X0 X1)))) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 \\ & X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ & X0 X1)))))) (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 \\ & (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ & (k2_pre_topc X0 X1)))))) (k5_enumset1 (k3_subset_1 (u1_struct_0 \\ & X0) X1) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1)) (k3_subset_1 \\ & (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ & X1))) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ & X0 (k3_subset_1 (u1_struct_0 X0) X1)))) (k3_subset_1 (u1_struct_0 \\ & X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\ & X0 (k3_subset_1 (u1_struct_0 X0) X1)))))) (k2_pre_topc X0 (k3_subset_1 \\ & (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ & (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1)))))) (k3_subset_1 \\ & (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\ & (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 \\ & (k3_subset_1 (u1_struct_0 X0) X1)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
X0))) \Rightarrow (k1_kurato_1 X0 X1 = k5_enumset1 X1 (k2_pre_topc X0 X1) (k3_subset_1 \\
& (u1_struct_0 X0) (k2_pre_topc X0 X1)) (k2_pre_topc X0 (k3_subset_1 \\
& (u1_struct_0 X0) (k2_pre_topc X0 X1))) (k3_subset_1 (u1_struct_0 \\
& X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\
& X0 X1)))) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc \\
& X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 X1)))))) (k3_subset_1 \\
& (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) \\
& (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 \\
& X1))))))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
X0))) \Rightarrow (k2_kurato_1 X0 X1 = k2_xboole_0 (k1_kurato_1 X0 X1) (k1_kurato_1 \\
& X0 (k3_subset_1 (u1_struct_0 X0) X1))))
\end{aligned}$$