

# t3\_kurato\_1 (TMabHpaybRuHxhJRCNoEd- kDiH9SERmDY71u)

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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  $k2\_kurato\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\forall X0. \forall X1. r1\_tarski X0 (k2\_xboole\_0 X0 X1) \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & \forall X6. \forall X7. (X7 = k5\_enumset1 X0 X1 X2 X3 X4 X5 X6) \Leftrightarrow (\forall X8. \\ & (X8 \in X7) \Leftrightarrow (\neg (X8 \neq X0) \wedge ((X8 \neq X1) \wedge ((X8 \neq X2) \wedge ((X8 \neq X3) \wedge ((X8 \neq X4) \wedge \\ & (X8 \neq X5) \wedge (X8 \neq X6)))))))))) \tag{6} \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))) \Rightarrow (k2\_kurato\_1 X0 X1 = k2\_xboole\_0 (k5\_enumset1 X1 (k2\_pre\_topc \\
& X0 X1) (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 X1)) (k2\_pre\_topc \\
& X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 X1))) (k3\_subset\_1 \\
& (u1\_struct\_0 X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) \\
& (k2\_pre\_topc X0 X1)))) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 \\
& X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc \\
& X0 X1)))) (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 (k3\_subset\_1 \\
& (u1\_struct\_0 X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) \\
& (k2\_pre\_topc X0 X1)))))) (k5\_enumset1 (k3\_subset\_1 (u1\_struct\_0 \\
& X0) X1) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) X1)) (k3\_subset\_1 \\
& (u1\_struct\_0 X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) \\
& X1))) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc \\
& X0 (k3\_subset\_1 (u1\_struct\_0 X0) X1)))) (k3\_subset\_1 (u1\_struct\_0 \\
& X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc \\
& X0 (k3\_subset\_1 (u1\_struct\_0 X0) X1)))) (k3\_subset\_1 (u1\_struct\_0 \\
& X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc \\
& X0 (k3\_subset\_1 (u1\_struct\_0 X0) X1)))))) (k2\_pre\_topc X0 (k3\_subset\_1 \\
& (u1\_struct\_0 X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) \\
& (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) X1)))))) (k3\_subset\_1 \\
& (u1\_struct\_0 X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) \\
& (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 \\
& (k3\_subset\_1 (u1\_struct\_0 X0) X1))))))))))
\end{aligned} \tag{7}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))) \Rightarrow ((X1 \in k2\_kurato\_1 X0 X1) \wedge ((k2\_pre\_topc X0 X1 \in k2\_kurato\_1 \\
& X0 X1) \wedge ((k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 X1) \in k2\_kurato\_1 \\
& X0 X1) \wedge ((k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc \\
& X0 X1)) \in k2\_kurato\_1 X0 X1) \wedge ((k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc \\
& X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 X1))) \in k2\_kurato\_1 \\
& X0 X1) \wedge ((k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc \\
& X0 (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 X1)))) \in k2\_kurato\_1 \\
& X0 X1) \wedge (k3\_subset\_1 (u1\_struct\_0 X0) (k2\_pre\_topc X0 (k3\_subset\_1 \\
& (u1\_struct\_0 X0) (k2\_pre\_topc X0 (k3\_subset\_1 (u1\_struct\_0 X0) \\
& (k2\_pre\_topc X0 X1)))))) \in k2\_kurato\_1 X0 X1))))))
\end{aligned}$$