

t53\_kurato\_1  
(TMFMuEjrKuq3tvE14MrFLYU4zxfmtTg1uLv)

October 27, 2020

Let  $r1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_topmetr : \iota$  be given. Let  $k6\_kurato\_1 : \iota$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.\forall X1.(\neg X0 \in X1) \Rightarrow (r1\_xboole\_0 (k1\_tarski X0) X1) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge (\neg v1\_xboole\_0 X1)) \Rightarrow ((r1\_subset\_1 X0 X1) \Rightarrow (r1\_subset\_1 X1 X0)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge (\neg v1\_xboole\_0 X1)) \Rightarrow ((r1\_subset\_1 X0 X1) \Leftrightarrow (r1\_xboole\_0 X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(((l1\_pre\_topc X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (k1\_tops\_1 X0 (k1\_tops\_1 X0 X1) = k1\_tops\_1 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (v3\_pre\_topc (k1\_tops\_1 X0 X1) X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \neg v1\_xboole\_0 (k4\_enumset1 X0 X1 X2 X3 X4 X5) \quad (6)$$

Assume the following.

$$(\neg v3\_pre\_topc\ k6\_kurato\_1\ k3\_topmetr) \wedge (\neg v4\_pre\_topc\ k6\_kurato\_1\ k3\_topmetr) \quad (7)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0\ (k1\_tarski\ X0) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (v4\_pre\_topc\ (k2\_pre\_topc\ X0\ X1)\ X0) \quad (9)$$

Assume the following.

$$m1\_subset\_1\ k6\_kurato\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ k3\_topmetr)) \quad (10)$$

Assume the following.

$$(v2\_pre\_topc\ k3\_topmetr) \wedge (l1\_pre\_topc\ k3\_topmetr) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. (((l1\_pre\_topc\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (m1\_subset\_1\ (k2\_pre\_topc\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. (((l1\_pre\_topc\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (m1\_subset\_1\ (k1\_tops\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \forall X6. (X6 = k4\_enumset1\ X0\ X1\ X2\ X3\ X4\ X5) \Leftrightarrow (\forall X7. (X7 \in X6) \Leftrightarrow (\neg (X7 \neq X0) \wedge ((X7 \neq X1) \wedge ((X7 \neq X2) \wedge ((X7 \neq X3) \wedge ((X7 \neq X4) \wedge (X7 \neq X5))))))) \quad (14)$$

### Theorem 1

$$\begin{aligned} & r1\_subset\_1\ (k4\_enumset1\ (k1\_tops\_1\ k3\_topmetr\ k6\_kurato\_1) \\ & \quad (k1\_tops\_1\ k3\_topmetr\ (k2\_pre\_topc\ k3\_topmetr\ k6\_kurato\_1)) \\ & \quad (k1\_tops\_1\ k3\_topmetr\ (k2\_pre\_topc\ k3\_topmetr\ (k1\_tops\_1\ k3\_topmetr \\ & \quad \quad k6\_kurato\_1)))\ (k2\_pre\_topc\ k3\_topmetr\ k6\_kurato\_1)\ (k2\_pre\_topc \\ & \quad \quad k3\_topmetr\ (k1\_tops\_1\ k3\_topmetr\ k6\_kurato\_1))\ (k2\_pre\_topc \\ & \quad \quad \quad k3\_topmetr\ (k1\_tops\_1\ k3\_topmetr\ (k2\_pre\_topc\ k3\_topmetr\ k6\_kurato\_1)))) \\ & \quad (k1\_tarski\ k6\_kurato\_1) \end{aligned}$$