

t24\_catalg\_1  
(TMGPBtQ21BDnqEa9kvfwy7EUAiSWiy6Pv1M)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_catalg\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_catalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v11\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_msualg\_1 : \iota \Rightarrow o$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_catalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k2\_catalg\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_msualg\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge (l1\_msualg\_1 \\ X0))) \Rightarrow (\forall X1. (l3\_msualg\_1 X1 X0) \Rightarrow (\forall X2. (m1\_subset\_1 \\ X2 (u4\_struct\_0 X0)) \Rightarrow ((k1\_msualg\_1 X0 X2 = k1\_xboole\_0) \Rightarrow (k3\_msualg\_1 \\ X0 X2 X1 = k1\_tarski k1\_xboole\_0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow \\ ((k1\_msualg\_1 (k3\_catalg\_1 X0) (k8\_catalg\_1 X0 X1) = k1\_xboole\_0) \wedge \\ (k2\_msualg\_1 (k3\_catalg\_1 X0) (k8\_catalg\_1 X0 X1) = k9\_catalg\_1 \\ X0 X1 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (3)$$

Assume the following.

$$\forall X0. k3\_catalg\_1 X0 = k2\_catalg\_1 X0 \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v2\_struct\_0 (k2\_catalg\_1 X0)) \wedge \\ ((\neg v11\_struct\_0 (k2\_catalg\_1 X0)) \wedge (v1\_msualg\_1 (k2\_catalg\_1 \\ X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow (m1\_subset\_1 (k8\_catalg\_1 X0 X1) (u4\_struct\_0 (k3\_catalg\_1 X0))) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_msualg\_1 (k2\_catalg\_1 X0))\wedge(l1\_msualg\_1 (k2\_catalg\_1 X0)) \quad (7)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(l3\_msualg\_1 X1 (k3\_catalg\_1 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 X0)\Rightarrow(k3\_msualg\_1 (k3\_catalg\_1 X0) (k8\_catalg\_1 X0 X2) X1 = k1\_tarski k1\_xboole\_0)))$$