

t49\_circmb3 (TMd-  
HWt5fYDJcrwgfjHjWo7m2KTFH19VCqdg)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_circmb3 : \iota \Rightarrow o$  be given. Let  $l1\_msualg\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xtuple\_0 : \iota \Rightarrow o$  be given. Let  $k3\_msafree2 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_facirc\_1 : \iota \Rightarrow o$  be given. Let  $k2\_msafree2 : \iota \Rightarrow \iota$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_msualg\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v6\_circmb3 X0) \wedge (l1\_msualg\_1 X0))) \Rightarrow (\neg v1\_facirc\_1 (k2\_msafree2 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k4\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_msualg\_1 X0)) \Rightarrow (k3\_msafree2 X0 = k2\_relset\_1 (u1\_struct\_0 X0) (u2\_msualg\_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_msualg\_1 X0)) \Rightarrow (k2\_msafree2 X0 = k6\_subset\_1 (u1\_struct\_0 X0) (k2\_relset\_1 (u1\_struct\_0 X0) (u2\_msualg\_1 X0))) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_facirc\_1 X0) \Leftrightarrow (\exists X1.(v1\_xtuple\_0 X1) \wedge (X1 \in X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((v7\_ordinal1 X0) \wedge (\neg v1\_xtuple\_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v6\_membered X0) \quad (9)$$

Assume the following.

$$\forall X0.(v6\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v7\_ordinal1 X1)) \quad (10)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v6\_circcmb3 X0) \wedge (l1\_msualg\_1 X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v1\_xtuple\_0 X1) \Rightarrow (X1 \in k3\_msafree2 X0)))$$