

t4_msafree2
(TMHYauW4TpHu3WZp9xqawudL1dp25rszm5i)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_msafree2 : \iota \Rightarrow \iota$ be given. Let $k1_msafree2 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_msafree2 : \iota \Rightarrow \iota$ 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 $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_msualg_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole_0 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (r1_tarski (k1_msafree2 X0) (k3_msafree2 X0)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (3)$$

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.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (k3_msafree2 X0 = k2_relset_1 (u1_struct_0 X0) (u2_msualg_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (k2_msafree2 X0 = k6_subset_1 (u1_struct_0 X0) (k2_relset_1 (u1_struct_0 X0) (u2_msualg_1 X0))) \quad (7)$$

Theorem 1

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (r1_xboole_0 (k2_msafree2 X0) (k1_msafree2 X0))$$