t83_member_1 (TMdfqxrZXnSy9xHaZ9cR9ZYqP4rrGmmbzLa)

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Let $v2\_membered : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12\_member\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v2\_membered\ X0) \Rightarrow (\forall X1.(v2\_membered\ X1) \Rightarrow (\forall X2.(v2\_membered\ X2) \Rightarrow (\forall X3.(v2\_membered\ X3) \Rightarrow (((r1\_tarski\ X0\ X1) \wedge (r1\_tarski\ X2\ X3)) \Rightarrow (r1\_tarski\ (k12\_member\_1\ X0\ X2)\ (k12\_member\_1\ X1\ X3))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski\ X0\ X1) \wedge (r1\_tarski\ X0\ X2)) \Rightarrow (r1\_tarski\ X0\ (k3\_xboole\_0\ X1\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ (k3\_xboole\_0\ X0\ X1)\ X0 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(v2\_membered\ X0) \Rightarrow (v2\_membered\ (k3\_xboole\_0\ X0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{6}$$

Theorem 1

$$\forall X0.(v2\_membered\ X0) \Rightarrow (\forall X1.(v2\_membered\ X1) \Rightarrow (\forall X2.(v2\_membered\ X2) \Rightarrow (r1\_tarski\ (k12\_member\_1\ X0\ (k3\_xboole\_0\ X1\ X2))\ (k3\_xboole\_0\ (k12\_member\_1\ X0\ X1)\ (k12\_member\_1\ X0\ X2))))))$$