

t105_member_1
(TMStj8NsaTfpA3nwn5NeqWybWeceQHAHnuz)

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Let $v2_membered : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k14_member_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_member_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_member_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow (\forall X2. \\ & (v2_membered X2) \Rightarrow (r1_tarski (k12_member_1 X0 (k3_xboole_0 X1 \\ & X2)) (k3_xboole_0 (k12_member_1 X0 X1) (k12_member_1 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(v2_membered X0) \Rightarrow (v2_membered (k3_xboole_0 X1 X0)) \quad (2)$$

Assume the following.

$$\forall X0.(v2_membered X0) \Rightarrow (v2_membered (k6_member_1 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow (k14_member_1 X0 X1 = k12_member_1 X0 (k6_member_1 X1))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v2_membered X0) \wedge (v2_membered X1)) \Rightarrow (k12_member_1 X0 X1 = k12_member_1 X1 X0) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow (\forall X2. \\ & (v2_membered X2) \Rightarrow (r1_tarski (k14_member_1 (k3_xboole_0 X0 X1) \\ & X2) (k3_xboole_0 (k14_member_1 X0 X2) (k14_member_1 X1 X2)))))) \end{aligned}$$