

t104_member_1

(TMaj7rzsXaPDMeiww6eVWT5rmpGgHvVZqk)

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Let $v2_membered : \iota \Rightarrow o$ be given. Let $k14_member_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow (\forall X2. \\ & (v2_membered X2) \Rightarrow (k12_member_1 X0 (k2_xboole_0 X1 X2) = k2_xboole_0 \\ & (k12_member_1 X0 X1) (k12_member_1 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v2_membered X0) \wedge (v2_membered X1)) \Rightarrow (v2_membered (k2_xboole_0 X0 X1)) \quad (2)$$

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

$$\begin{aligned} & \forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow (\forall X2. \\ & (v2_membered X2) \Rightarrow (k14_member_1 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 \\ & (k14_member_1 X0 X2) (k14_member_1 X1 X2)))) \end{aligned}$$