

t17_member_1
(TMLb2CX56AskDAnRMsxsjbQYR6zQ39oasiK)

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Let $v1_membered : \iota \Rightarrow o$ be given. Let $k5_member_1 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k1_binop_2 : \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ be given. Assume the following.

$$\forall X0.(v1_membered X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((k1_binop_2 X1 \in X0) \Leftrightarrow (X1 \in k5_member_1 X0))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k1_binop_2 X0 = k4_xcmplx_0 X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1_membered X0) \Rightarrow (k5_member_1 (k5_member_1 X0) = X0) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k1_binop_2 (k1_binop_2 X0) = X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered X0) \Rightarrow (v1_membered (k4_xboole_0 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_membered X0) \Rightarrow (v1_membered (k5_member_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k1_binop_2 X0) k2_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_membered X0) \Rightarrow (k5_member_1 X0 = ReplSep (toset (\\ \lambda X1 : \iota.m1_subset_1 X1 k2_numbers)) (\lambda X1 : \iota.X1 \in X0) (\\ \lambda X1 : \iota.k1_binop_2 X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_membered X0) \Rightarrow (\forall X1.(v1_membered X1) \Rightarrow ((\\ X0 = X1) \Leftrightarrow (\forall X2.(v1_xcmplx_0 X2) \Rightarrow ((X2 \in X0) \Leftrightarrow (X2 \in X1))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (12)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_membered X0) \Rightarrow (\forall X1.(v1_membered X1) \Rightarrow (k5_member_1 \\ (k6_subset_1 X0 X1) = k6_subset_1 (k5_member_1 X0) (k5_member_1 \\ X1))) \end{aligned}$$