

t15\_member\_1  
(TMGAPcgrtJSzi6mEBc4nAo15twTVrcfqCjo)

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Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $k5\_member\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k1\_binop\_2 : \iota \Rightarrow \iota$  be given. 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.

$$\forall X0.\forall X1.((v1\_membered X0) \wedge (v1\_membered X1)) \Rightarrow (v1\_membered (k2\_xboole\_0 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_membered X0) \Rightarrow (v1\_membered (k5\_member\_1 X0)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_membered X0) \Rightarrow (\forall X1.(v1\_membered X1) \Rightarrow ((X0 = X1) \Leftrightarrow (\forall X2.(v1\_xcmplx\_0 X2) \Rightarrow ((X2 \in X0) \Leftrightarrow (X2 \in X1))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (6)$$

**Theorem 1**

$$\forall X0.(v1\_membered X0) \Rightarrow (\forall X1.(v1\_membered X1) \Rightarrow (k5\_member\_1 (k2\_xboole\_0 X0 X1) = k2\_xboole\_0 (k5\_member\_1 X0) (k5\_member\_1 X1)))$$