

t7_member_1
(TMNRvohxB13zU9cUv71i3JFjkX28q8Er99g)

October 27, 2020

Let $v2_membered : \iota \Rightarrow o$ be given. Let $k4_member_1 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k2_xxreal_3 : \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_numbers : \iota$ be given. Let $k1_member_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v2_membered\ X0) \Rightarrow (\forall X1.(v1_xxreal_0\ X1) \Rightarrow ((k2_xxreal_3\ X1 \in X0) \Leftrightarrow (X1 \in k4_member_1\ X0))) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v2_membered\ X0) \Rightarrow (k4_member_1\ (k4_member_1\ X0) = X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xxreal_0\ X0) \Rightarrow (k2_xxreal_3\ (k2_xxreal_3\ X0) = X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(v2_membered\ X0) \Rightarrow (v2_membered\ (k4_xboole_0\ X0\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.(v2_membered\ X0) \Rightarrow (v2_membered\ (k4_member_1\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xxreal_0\ X0) \Rightarrow (v1_xxreal_0\ (k2_xxreal_3\ X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4_xboole_0\ X0\ X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v2_membered\ X0) \Rightarrow (k4_member_1\ X0 = ReplSep\ (toiset\ (\\ \lambda X1 : \iota.m1_subset_1\ X1\ k7_numbers))\ (\lambda X1 : \iota.X1 \in X0)\ (\\ \lambda X1 : \iota.k1_member_1\ X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v2_membered\ X0) \Rightarrow (\forall X1.(v2_membered\ X1) \Rightarrow ((\\ X0 = X1) \Leftrightarrow (\forall X2.(v1_xxreal_0\ X2) \Rightarrow ((X2 \in X0) \Leftrightarrow (X2 \in X1))))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.(v2_membered\ X0) \Rightarrow (\forall X1.(v2_membered\ X1) \Rightarrow (k4_member_1 \\ (k6_subset_1\ X0\ X1) = k6_subset_1\ (k4_member_1\ X0)\ (k4_member_1 \\ X1))) \end{aligned}$$