

t40_member_1

(TMYki8mSGAgjr7tiV5myKJWVs58xRpVjA7R)

October 27, 2020

Let $v2_membered : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_member_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_numbers : \iota$ be given. Let $k1_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow (k8_member_1 \\ X0 X1 = ReplSep2 (toset (\lambda X2 : \iota.m1_subset_1 X2 k7_numbers)) \\ (\lambda X2 : \iota.toset (\lambda X3 : \iota.m1_subset_1 X3 k7_numbers)) (\\ \lambda X2 : \iota.\lambda X3 : \iota.(X2 \in X0) \wedge (X3 \in X1)) (\lambda X2 : \iota.\lambda X3 : \\ \iota.k1_xxreal_3 X2 X3)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (2)$$

Theorem 1

$$\begin{aligned} \forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow (\forall X2. \\ (v2_membered X2) \Rightarrow (\forall X3.(v2_membered X3) \Rightarrow (((r1_tarski \\ X0 X1) \wedge (r1_tarski X2 X3)) \Rightarrow (r1_tarski (k8_member_1 X0 X2) (k8_member_1 \\ X1 X3)))))) \end{aligned}$$