

t12_xxreal_1
(TMKq4bTkaYR7jargdc6kaHvtbFKubv7wkAV)

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Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k3_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((X0 \in k3_xxreal_1 X1 X2) \Leftrightarrow ((\neg r1_xxreal_0 X0 X1) \wedge \\ & (r1_xxreal_0 X0 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((X0 \in k1_xxreal_1 X1 X2) \Leftrightarrow ((r1_xxreal_0 X1 X0) \wedge \\ & (r1_xxreal_0 X0 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (v2_membered (k3_xxreal_1 X0 X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0) \tag{5}$$

Assume the following.

$$\forall X0.(v2_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_xxreal_0 X1)) \tag{6}$$

Theorem 1

$$\forall X0.\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2.(v1_xxreal_0 X2) \Rightarrow ((X0 \in k3_xxreal_1 X1 X2) \Rightarrow ((X0 \in k1_xxreal_1 X1 X2) \wedge (X0 \neq X1))))$$