

t46_xxreal_1

(TMVB4qHDNGtr8qXVLMk3HMPwiJpQWP2oeUj)

October 27, 2020

Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1_xxreal_0 X1) \Rightarrow (\forall X2. (v1_xxreal_0 \\ & X2) \Rightarrow (\neg (X0 \in k1_xxreal_1 X1 X2) \wedge (\neg X0 \in k4_xxreal_1 X1 X2) \wedge ((X0 \neq \\ & X1) \wedge (X0 \neq X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((X0 \in k4_xxreal_1 X1 X2) \Leftrightarrow ((\neg r1_xxreal_0 X0 X1) \wedge \\ & (\neg r1_xxreal_0 X2 X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3. (v1_xxreal_0 X3) \Rightarrow (((r1_xxreal_0 \\ & X0 X1) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow (r1_tarski (k4_xxreal_1 X1 X2) (k1_xxreal_1 \\ & X0 X3)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow \\ & (X2 \in X1)) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3. (v1_xxreal_0 X3) \Rightarrow (((r1_xxreal_0 \\ & X0 X1) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow (r1_tarski (k4_xxreal_1 X1 X2) (k4_xxreal_1 \\ & X0 X3)))))) \end{aligned}$$