

t43_xxreal_1

(TMaUPX1sq7x5Lpx75EgKQFVr6qc3qYaaENy)

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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 $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((X0 \in k2_xxreal_1 X1 X2) \Leftrightarrow ((r1_xxreal_0 X1 X0) \wedge \\ & (\neg r1_xxreal_0 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((X0 \in k1_xxreal_1 X1 X2) \Leftrightarrow ((r1_xxreal_0 X1 X0) \wedge \\ & (r1_xxreal_0 X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (\\ & v2_membered (k1_xxreal_1 X0 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v2_membered X0) \Rightarrow (\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((X2 \in X0) \Rightarrow (X2 \in X1)))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3.(v1_xxreal_0 X3) \Rightarrow ((r1_xxreal_0 \\ & X0 X1) \Rightarrow ((r1_xxreal_0 X3 X2) \vee (r1_tarski (k1_xxreal_1 X1 X2) (k2_xxreal_1 \\ & X0 X3)))))))))) \end{aligned}$$