

t49\_xxreal\_1

(TMYutYCN9GUdA6cbnCErHLzsjh6gRCJneds)

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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  $k3\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow ((X0 \in k4\_xxreal\_1 X1 X2) \Leftrightarrow ((\neg r1\_xxreal\_0 X0 X1) \wedge \\ & (\neg r1\_xxreal\_0 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow ((X0 \in k3\_xxreal\_1 X1 X2) \Leftrightarrow ((\neg r1\_xxreal\_0 X0 X1) \wedge \\ & (r1\_xxreal\_0 X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ & (r1\_xxreal\_0 X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\ & v2\_membered (k3\_xxreal\_1 X0 X1)) \end{aligned} \quad (4)$$

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**

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow ((r1\_xxreal\_0 \\ & X0 X1) \Rightarrow ((r1\_xxreal\_0 X3 X2) \vee (r1\_tarski (k3\_xxreal\_1 X1 X2) (k4\_xxreal\_1 \\ & X0 X3)))))))))) \end{aligned}$$