

t51_xxreal_1
(TMWxjF94t5JxvxoIRXB5ScTs3fmuwh8Jh6K)

October 27, 2020

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

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3.(v1_xxreal_0 X3) \Rightarrow (((r1_xxreal_0 \\ & X0 X1) \wedge (r1_tarski (k1_xxreal_1 X0 X1) (k1_xxreal_1 X2 X3)))) \Rightarrow ((\\ & r1_xxreal_0 X2 X0) \wedge (r1_xxreal_0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3.(v1_xxreal_0 X3) \Rightarrow (\neg(\neg r1_xxreal_0 \\ & X1 X0) \wedge (\neg r1_xxreal_0 X3 X2) \wedge (\neg r1_tarski (k1_xxreal_1 X1 X2) (\\ & k4_xxreal_1 X0 X3)))))) \end{aligned} \quad (2)$$

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.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\neg \\ & (\neg r1_xxreal_0 X1 X0) \wedge (\forall X2.(v1_xxreal_0 X2) \Rightarrow (\neg(\neg r1_xxreal_0 \\ & X2 X0) \wedge (\neg r1_xxreal_0 X1 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((r1_tarski X0 X1) \wedge (r1_tarski \\ & X1 X2)) \Rightarrow (r1_tarski X0 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (\\ & r1_xxreal_0 X0 X0) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (7)$$

Theorem 1

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