

t38_xxreal_0

(TMYUZWCTSVMXH5caehNiSi9mHiLyH87E6Wek)

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Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k3_xxreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xxreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3.(v1_xxreal_0 X3) \Rightarrow (((r1_xxreal_0 \\ & X0 X1) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow (r1_xxreal_0 (k3_xxreal_0 X0 X2) (\\ & k3_xxreal_0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (v1_xxreal_0 (k3_xxreal_0 X0 X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((\\ & (r1_xxreal_0 X1 X0) \Rightarrow (k4_xxreal_0 X0 X1 = X0)) \wedge ((\neg r1_xxreal_0 X1 \\ & X0) \Rightarrow (k4_xxreal_0 X0 X1 = X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow ((r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (k4_xxreal_0 X0 X1 = k4_xxreal_0 X1 X0) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (k3_xxreal_0 X0 (k4_xxreal_0 X1 X2) = k4_xxreal_0 \\ & (k3_xxreal_0 X0 X1) (k3_xxreal_0 X0 X2)))) \end{aligned}$$