

t30_xxreal_3

(TMT9drCT1sESvUPziENQ7JLpgA6eP2hPrVi)

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Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_0 : \iota$ be given. Let $k2_xxreal_0 : \iota$ be given. Let $k3_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xxreal_3 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\neg(\neg(X0 = k1_xxreal_0) \wedge (X1 = k2_xxreal_0)) \wedge \\ & (\neg(X0 = k2_xxreal_0) \wedge (X1 = k1_xxreal_0)) \wedge (\neg(X1 = k1_xxreal_0) \wedge \\ & (X2 = k2_xxreal_0)) \wedge (\neg(X1 = k2_xxreal_0) \wedge (X2 = k1_xxreal_0)) \wedge \\ & (\neg(X0 = k1_xxreal_0) \wedge (X2 = k2_xxreal_0)) \wedge (\neg(X0 = k2_xxreal_0) \wedge \\ & (X2 = k1_xxreal_0)) \wedge (k1_xxreal_3 (k1_xxreal_3 X0 X1) X2 \neq k1_xxreal_3 \\ & X0 (k1_xxreal_3 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (((X0 = k1_xxreal_0) \Rightarrow (k2_xxreal_3 \\ & X0 = k2_xxreal_0)) \wedge (((k2_xxreal_3 X0 = k2_xxreal_0) \Rightarrow (X0 = k1_xxreal_0)) \wedge \\ & (((X0 = k2_xxreal_0) \Rightarrow (k2_xxreal_3 X0 = k1_xxreal_0)) \wedge ((k2_xxreal_3 \\ & X0 = k1_xxreal_0) \Rightarrow (X0 = k2_xxreal_0)))) \end{aligned} \tag{2}$$

Assume the following.

$$v1_xxreal_0 k2_xxreal_0 \tag{3}$$

Assume the following.

$$v1_xxreal_0 k1_xxreal_0 \tag{4}$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (v1_xxreal_0 (k2_xxreal_3 X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (v1_xxreal_0 (k1_xxreal_3 X0 X1)) \tag{6}$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (k3_xxreal_3 X0 X1 = k1_xxreal_3 X0 (k2_xxreal_3 X1))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow(k1_xxreal_3 X0 X1 = k1_xxreal_3 X1 X0) \quad (8)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v1_xxreal_0 X0)\Rightarrow(\forall X1.(v1_xxreal_0 X1)\Rightarrow(\forall X2. \\ &(v1_xxreal_0 X2)\Rightarrow(\neg(\neg(X0 = k1_xxreal_0)\wedge(X1 = k2_xxreal_0))\wedge \\ &((\neg(X0 = k2_xxreal_0)\wedge(X1 = k1_xxreal_0))\wedge(\neg(X1 = k1_xxreal_0)\wedge \\ &(X2 = k1_xxreal_0))\wedge(\neg(X1 = k2_xxreal_0)\wedge(X2 = k2_xxreal_0))\wedge \\ &((\neg(X0 = k1_xxreal_0)\wedge(X2 = k1_xxreal_0))\wedge(\neg(X0 = k2_xxreal_0)\wedge \\ &(X2 = k2_xxreal_0))\wedge(k3_xxreal_3 (k1_xxreal_3 X0 X1) X2\neq k1_xxreal_3 \\ &X0 (k3_xxreal_3 X1 X2)))))))))) \end{aligned}$$