

t14_xxreal_3 (TMNABfDsS-
dGV6Q2aPyzgBRPz81d2Qo7mPKr)

October 27, 2020

Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k2_xxreal_0 : \iota$ be given. Let $k3_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_0 : \iota$ be given. Let $k2_xxreal_3 : \iota \Rightarrow \iota$ be given. Let $k1_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Assume the following.

$$k2_xxreal_3 \ k2_xxreal_0 = k1_xxreal_0 \tag{1}$$

Assume the following.

$$\forall X0.(v1_xxreal_0 \ X0) \Rightarrow (k2_xxreal_3 \ (k2_xxreal_3 \ X0) = X0) \tag{2}$$

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.

$$\forall X0.(v1_xxreal_0 \ X0) \Rightarrow (\forall X1.(v1_xxreal_0 \ X1) \Rightarrow (k3_xxreal_3 \ X0 \ X1 = k1_xxreal_3 \ X0 \ (k2_xxreal_3 \ X1))) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\
& (v1_xxreal_0 X2) \Rightarrow (((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow ((X2 = \\
& k1_xxreal_3 X0 X1) \Leftrightarrow (\exists X3.(v1_xcmplx_0 X3) \wedge (\exists X4. \\
& (v1_xcmplx_0 X4) \wedge ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = k2_xcmplx_0 X3 X4)))))) \wedge \\
& (((((X0 = k1_xxreal_0) \wedge (X1 \neq k2_xxreal_0)) \vee ((X1 = k1_xxreal_0) \wedge \\
& (X0 \neq k2_xxreal_0))) \Rightarrow ((X2 = k1_xxreal_3 X0 X1) \Leftrightarrow (X2 = k1_xxreal_0))) \wedge \\
& (((((X0 = k2_xxreal_0) \wedge (X1 \neq k1_xxreal_0)) \vee ((X1 = k2_xxreal_0) \wedge \\
& (X0 \neq k1_xxreal_0))) \Rightarrow ((X2 = k1_xxreal_3 X0 X1) \Leftrightarrow (X2 = k2_xxreal_0))) \wedge \\
& (\neg(\neg(v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \wedge (\neg(X0 = k1_xxreal_0) \wedge \\
& (X1 \neq k2_xxreal_0)) \wedge (\neg(X1 = k1_xxreal_0) \wedge (X0 \neq k2_xxreal_0)) \wedge \\
& ((\neg(X0 = k2_xxreal_0) \wedge (X1 \neq k1_xxreal_0)) \wedge (\neg(X1 = k2_xxreal_0) \wedge \\
& (X0 \neq k1_xxreal_0)) \wedge (\neg(X2 = k1_xxreal_3 X0 X1) \Leftrightarrow (X2 = k6_numbers))))))))) \\
& \tag{7}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (\\
& k1_xxreal_3 X0 X1 = k1_xxreal_3 X1 X0) \\
& \tag{8}
\end{aligned}$$

Theorem 1

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