

t9_xreal_1

(TMTG3wTjwUyU3dgvMfS4B9rQ3EZemFqpJxR)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (r1_xxreal_0 (k6_xcmplx_0 \\ & X0 X2) (k6_xcmplx_0 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 (k2_xcmplx_0 X0 X1) (k2_xcmplx_0 \\ & X2 X1)) \Rightarrow (r1_xxreal_0 X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 X0)) \wedge \\ & (v1_xreal_0 (k4_xcmplx_0 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (k6_xcmplx_0 \\ & X0 X1 = k2_xcmplx_0 X0 (k4_xcmplx_0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 X0 X1) \Leftrightarrow (r1_xxreal_0 (k6_xcmplx_0 \\ & X0 X2) (k6_xcmplx_0 X1 X2)))))) \end{aligned}$$