

t1_rcomp_1 (TMMmcK- TnnCMKcv5yGjrVdrdhxYBP1XviAt4)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 X0 (k2_xcmplx_0 X1 X2)) \Leftrightarrow (r1_xxreal_0 \\ & (k6_xcmplx_0 X0 X1) X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((\neg \\ & r1_xxreal_0 X1 (k4_xcmplx_0 X0)) \wedge (\neg r1_xxreal_0 X0 X1)) \Leftrightarrow (\neg r1_xxreal_0 \\ & X0 (k18_complex1 X1)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 (k2_xcmplx_0 X0 X1) X2) \Leftrightarrow (r1_xxreal_0 \\ & X0 (k6_xcmplx_0 X2 X1)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k2_xcmplx_0 X0 (k4_xcmplx_0 X1) = k6_xcmplx_0 X0 X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k6_xcmplx_0 X0 X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(v1_xreal_0 (k2_xcmplx_0 X0 X1)) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge (v1_xreal_0 (k4_xcmplx_0 X0))) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0)\Rightarrow(\forall X1.(v1_xxreal_0 X1)\Rightarrow(k2_rcomp_1 \\ X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1_subset_1 X2 k1_numbers)) \\ (\lambda X2 : \iota.(\neg r1_xxreal_0 X2 X0)\wedge(\neg r1_xxreal_0 X1 X2)) (\lambda X2 : \\ \iota.X2)))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Leftrightarrow(X0 \in k1_numbers) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k2_xcmplx_0 X0 X1 = k2_xcmplx_0 X1 X0) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (13)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(\forall X2. \\ (v1_xreal_0 X2)\Rightarrow((X0 \in k2_rcomp_1 (k6_xcmplx_0 X1 X2) (k2_xcmplx_0 \\ X1 X2))\Leftrightarrow(\neg r1_xxreal_0 X2 (k18_complex1 (k6_xcmplx_0 X0 X1)))))) \end{aligned}$$