

t4_fcont_3

(TMdMPYJ3hrNe57m8g9eKcSaJnMXSNZHofbN)

October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k11_arytm_3 : \iota$ be given. Let $k1_xxreal_0 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (v1_xreal_0 X3) \Rightarrow ((X0 = k7_real_1 X1 X2) \Rightarrow ((r1_xxreal_0 X3 (k18_complex1 \\ & X2)) \vee ((\neg r1_xxreal_0 X3 k6_numbers) \wedge (X0 \in k2_rcomp_1 (k9_real_1 \\ & X1 X3) (k7_real_1 X1 X3)))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (X0 = k2_xcmplx_0 (k6_xcmplx_0 X0 X1) X1)) \tag{2}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Leftrightarrow (r1_xxreal_0 (k4_xcmplx_0 X1) (k4_xcmplx_0 X0)))) \tag{3}$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (((\neg r1_xxreal_0 X1 (k4_xcmplx_0 X0)) \wedge (\neg r1_xxreal_0 X0 X1)) \Leftrightarrow (\neg r1_xxreal_0 X0 (k18_complex1 X1)))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k9_real_1 X0 X1 = k6_xcmplx_0 X0 X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(k7_real_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k11_arytm_3 = k1_xboole_0 \quad (8)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(k4_xcmplx_0 (k4_xcmplx_0 X0) = X0) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge (v1_xreal_0 (k4_xcmplx_0 X0))) \quad (10)$$

Assume the following.

$$k1_xxreal_0 = k1_numbers \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0)\Rightarrow(\forall X1.(v1_xxreal_0 X1)\Rightarrow(k2_rcomp_1 \\ X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1_subset_1 X2 k1_numbers)) \\ (\lambda X2 : \iota.(\neg r1_xxreal_0 X2 X0)\wedge(\neg r1_xxreal_0 X1 X2)) (\lambda X2 : \\ \iota.X2)))) \quad (12) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(\\ k2_xcmplx_0 X0 X1 = k2_xcmplx_0 X1 X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (16)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(\forall X1.(m1_subset_1 \\ X1 k1_numbers)\Rightarrow(\forall X2.(v1_xreal_0 X2)\Rightarrow((k9_real_1 X0 X1 \in \\ k2_rcomp_1 (k4_xcmplx_0 X2) X2)\Rightarrow((\neg r1_xxreal_0 X2 k6_numbers)\wedge \\ (X0 \in k2_rcomp_1 (k9_real_1 X1 X2) (k7_real_1 X1 X2)))))) \end{aligned}$$