

t22_complex2

(TMNMJapbqQwXsJixfAq9JHMqsdjoFmiVsea)

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Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k1_comptrig : \iota \Rightarrow \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k3_complex1 : \iota \Rightarrow \iota$ be given. Let $k4_complex1 : \iota \Rightarrow \iota$ be given. Let $k21_sin_cos : \iota \Rightarrow \iota$ be given. Let $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k18_sin_cos : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $np_0 : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k5_complex1 : \iota$ be given. Let $k2_complex1 : \iota \Rightarrow \iota$ be given. Let $k1_complex1 : \iota \Rightarrow \iota$ be given. Let $k31_sin_cos : \iota$ be given. Let $k11_arytm_3 : \iota$ be given. Let $k5_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $c5_xxreal_0 : \iota$ be given. Let $k1_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $c3_xxreal_0 : \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & (k21_sin_cos (k10_real_1 k32_sin_cos np_2) = k6_numbers) \wedge ((\\
 & k18_sin_cos (k10_real_1 k32_sin_cos np_2) = np_1) \wedge ((k21_sin_cos \\
 & k32_sin_cos = k1_real_1 np_1) \wedge ((k18_sin_cos k32_sin_cos = k6_numbers) \wedge \\
 & ((k21_sin_cos (k7_real_1 k32_sin_cos (k10_real_1 k32_sin_cos \\
 & np_2)) = k6_numbers) \wedge ((k18_sin_cos (k7_real_1 k32_sin_cos (\\
 & k10_real_1 k32_sin_cos np_2)) = k1_real_1 np_1) \wedge ((k21_sin_cos \\
 & (k8_real_1 np_2 k32_sin_cos) = np_1) \wedge (k18_sin_cos (k8_real_1 \\
 & np_2 k32_sin_cos) = k6_numbers))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (v1_xcmplx_0 X0) \Rightarrow ((\neg(X0 \neq k6_numbers) \wedge (r1_xxreal_0 \\
 & (k17_complex1 X0) k6_numbers)) \wedge (\neg(\neg r1_xxreal_0 (k17_complex1 \\
 & X0) k6_numbers) \wedge (X0 = k6_numbers)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\neg(\neg r1_xxreal_0 k6_numbers (k4_complex1 X0)) \wedge (r1_xxreal_0 k6_numbers (k18_sin_cos (k1_comptrig X0)))) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\neg(\neg r1_xxreal_0 (k4_complex1 X0) k6_numbers) \wedge (r1_xxreal_0 (k18_sin_cos (k1_comptrig X0)) k6_numbers)) \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow ((\neg r1_xxreal_0 k6_numbers X0) \Rightarrow (k1_comptrig X0 = k32_sin_cos)) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow ((r1_xxreal_0 k6_numbers X0) \Rightarrow (k1_comptrig X0 = k6_numbers)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow ((r1_xxreal_0 k6_numbers (k1_comptrig X0)) \wedge (\neg r1_xxreal_0 (k8_real_1 np_2 k32_sin_cos) (k1_comptrig X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow ((k1_comptrig X0 = k6_numbers) \Leftrightarrow (X0 = k17_complex1 X0)) \quad (9)$$

Assume the following.

$$k2_xcmplx_0 np_1 (k4_xcmplx_0 np_1) = np_0 \quad (10)$$

Assume the following.

$$r1_xxreal_0 np_0 np_0 \quad (11)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (12)$$

Assume the following.

$$k5_complex1 = k1_xboole_0 \quad (13)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k4_complex1 X0 = k2_complex1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_complex1 X0 = k1_complex1 X0) \quad (15)$$

Assume the following.

$$k32_sin_cos = k31_sin_cos \quad (16)$$

Assume the following.

$$k11_arytm_3 = k1_xboole_0 \quad (17)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k5_arytm_0 (k3_complex1 X0) (k4_complex1 X0) = X0) \quad (18)$$

Assume the following.

$$\neg r1_xreal_0 k32_sin_cos k6_numbers \quad (19)$$

Assume the following.

$$(c5_xreal_0 = k4_xcmplx_0 np_1) \wedge (k1_arytm_0 c3_xreal_0 c5_xreal_0 = k6_numbers) \quad (20)$$

Assume the following.

$$k2_xcmplx_0 np_1 (k4_xcmplx_0 np_1) = k6_numbers \quad (21)$$

Assume the following.

$$v3_membered k1_numbers \quad (22)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (v1_xreal_0 (k2_complex1 X0)) \quad (23)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (24)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (v1_xreal_0 (k1_complex1 X0)) \quad (25)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k4_complex1 X0) k1_numbers) \quad (26)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k3_complex1 X0) k1_numbers) \quad (27)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k1_comptrig X0) k1_numbers) \quad (28)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.((X0 \in k1_numbers) \Rightarrow (\\ (X1 = k2_complex1 X0) \Leftrightarrow (X1 = k6_numbers))) \wedge ((\neg X0 \in k1_numbers) \Rightarrow \\ ((X1 = k2_complex1 X0) \Leftrightarrow (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ X2 np_2 k1_numbers) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ np_2 k1_numbers)))))) \wedge ((X0 = X2) \wedge (X1 = k1_funct_1 X2 np_1)))))) \end{aligned} \quad (29)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.((X0 \in k1_numbers) \Rightarrow (\\ (X1 = k1_complex1 X0) \Leftrightarrow (X1 = X0))) \wedge ((\neg X0 \in k1_numbers) \Rightarrow ((X1 = k1_complex1 \\ X0) \Leftrightarrow (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 np_2 k1_numbers) \wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 np_2 k1_numbers)))))) \wedge \\ ((X0 = X2) \wedge (X1 = k1_funct_1 X2 k6_numbers)))))) \end{aligned} \quad (30)$$

Assume the following.

$$\forall X0.(v3_membered X0) \Rightarrow (v1_membered X0) \quad (31)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (32)$$

Assume the following.

$$\forall X0.(v1_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_xcmplx_0 X1)) \quad (33)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow ((k1_comptrig X0 = k32_sin_cos) \Leftrightarrow \\ ((\neg r1_xreal_0 k6_numbers (k3_complex1 X0)) \wedge (k4_complex1 X0 = \\ k6_numbers))) \end{aligned}$$