

t22_complex1

(TMam9YHFfW52d419X1SvDa6pwLidbDC3cyY)

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Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k4_complex1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k3_complex1 : \iota \Rightarrow \iota$ be given. Let $k5_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k2_real_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k2_complex1 : \iota \Rightarrow \iota$ be given. Let $k1_complex1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $np_2 : \iota$ 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 $np_1 : \iota$ be given. Assume the following.

$$k6_numbers = k1_xboole_0 \tag{1}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k4_complex1 X0 = k2_complex1 X0) \tag{2}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_complex1 X0 = k1_complex1 X0) \tag{3}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k2_real_1 X0 = k5_xcmplx_0 X0) \tag{4}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k5_arytm_0 (k3_complex1 X0) (k4_complex1 X0) = X0) \tag{5}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((v1_xcmplx_0 (k5_xcmplx_0 X0)) \wedge (v1_xreal_0 (k5_xcmplx_0 X0))) \tag{6}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (v1_xreal_0 (k1_complex1 X0)) \tag{7}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k3_complex1 X0) k1_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.((X0 \in k1_numbers) \Rightarrow (\\ (X1 = k2_complex1 X0) \Leftrightarrow (X1 = k6_numbers))) \wedge ((\neg X0 \in k1_numbers) \Rightarrow \\ ((X1 = k2_complex1 X0) \Leftrightarrow (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ X2 np_2 k1_numbers) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ np_2 k1_numbers)))))) \wedge ((X0 = X2) \wedge (X1 = k1_funct_1 X2 np_1)))))) \end{aligned} \quad (9)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.((X0 \in k1_numbers) \Rightarrow (\\ (X1 = k1_complex1 X0) \Leftrightarrow (X1 = X0))) \wedge ((\neg X0 \in k1_numbers) \Rightarrow ((X1 = k1_complex1 \\ X0) \Leftrightarrow (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 np_2 k1_numbers) \wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 np_2 k1_numbers)))))) \wedge \\ ((X0 = X2) \wedge (X1 = k1_funct_1 X2 k6_numbers)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (12)$$

Theorem 1

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow ((k4_complex1 X0 = k6_numbers) \Rightarrow (\\ (k3_complex1 X0 = k6_numbers) \vee ((k3_complex1 (k5_xcmplx_0 X0) = \\ k2_real_1 (k3_complex1 X0)) \wedge (k4_complex1 (k5_xcmplx_0 X0) = k6_numbers))))$$