

l31_complex1 (TMZ- CAULLkt8HdSLFLuaWa1N6doFdjuXD3HV)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_complex1 : \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_complex1 : \iota$ be given. Let $k3_complex1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xcmplx_0 : \iota$ 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 $k5_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ 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. Assume the following.

$$(k3_complex1\ k7_complex1 = k6_numbers) \wedge (k4_complex1\ k7_complex1 = np_1) \tag{1}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0\ X0) \Rightarrow (k3_xcmplx_0\ np_1\ X0 = X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X0\ X1) \Rightarrow ((v1_xboole_0\ X1) \vee (X0 \in X1)) \tag{3}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0\ X0) \Rightarrow (k3_xcmplx_0\ X0\ k6_numbers = k6_numbers) \tag{4}$$

Assume the following.

$$((v2_xxreal_0\ np_1) \wedge (m2_subset_1\ np_1\ k1_numbers\ k5_numbers)) \wedge ((m1_subset_1\ np_1\ k5_numbers) \wedge (m1_subset_1\ np_1\ k1_numbers)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(k8_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (6)$$

Assume the following.

$$k7_complex1 = k1_xcmplx_0 \quad (7)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (8)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(k4_complex1 X0 = k2_complex1 X0) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(k3_complex1 X0 = k1_complex1 X0) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(\forall X1.(m1_subset_1 X1 k1_numbers)\Rightarrow((k3_complex1 (k5_arytm_0 X0 X1) = X0)\wedge(k4_complex1 (k5_arytm_0 X0 X1) = X1))) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(\forall X1.(v1_xcmplx_0 X1)\Rightarrow(((k3_complex1 (k3_xcmplx_0 X0 X1) = k9_real_1 (k8_real_1 (k3_complex1 X0) (k3_complex1 X1)) (k8_real_1 (k4_complex1 X0) (k4_complex1 X1)))\wedge(k4_complex1 (k3_xcmplx_0 X0 X1) = k7_real_1 (k8_real_1 (k3_complex1 X0) (k4_complex1 X1)) (k8_real_1 (k3_complex1 X1) (k4_complex1 X0)))))) \quad (12)$$

Assume the following.

$$v1_xcmplx_0 k1_xcmplx_0 \quad (13)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(m1_subset_1 X1 k1_numbers))\Rightarrow(m1_subset_1 (k5_arytm_0 X0 X1) k2_numbers) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(m1_subset_1 (k3_complex1 X0) k1_numbers) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.((X0 \in k1_numbers) \Rightarrow (\\ & (X1 = k2_complex1 X0) \Leftrightarrow (X1 = k6_numbers))) \wedge ((\neg X0 \in k1_numbers) \Rightarrow \\ & ((X1 = k2_complex1 X0) \Leftrightarrow (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 np_2 k1_numbers) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & np_2 k1_numbers)))))) \wedge ((X0 = X2) \wedge (X1 = k1_funct_1 X2 np_1)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.((X0 \in k1_numbers) \Rightarrow (\\ & (X1 = k1_complex1 X0) \Leftrightarrow (X1 = X0))) \wedge ((\neg X0 \in k1_numbers) \Rightarrow ((X1 = k1_complex1 \\ & X0) \Leftrightarrow (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 np_2 k1_numbers) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 np_2 k1_numbers)))))) \wedge \\ & ((X0 = X2) \wedge (X1 = k1_funct_1 X2 k6_numbers)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k8_real_1 X0 X1 = k8_real_1 X1 X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k3_xcmplx_0 X0 X1 = k3_xcmplx_0 X1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (22)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (23)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k4_complex1 (k3_xcmplx_0 X0 k7_complex1) = X0)$$