

t12_cfuncdom

(TMbsxxNsecqavarGYG8CJYL3NC1kkyCsVSG)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_cfuncdom : \iota \Rightarrow \iota$ be given. Let $k1_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_complex1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m2_funct_2 X1 X0 k2_numbers \\
& (k9_funct_2 X0 k2_numbers)) \Rightarrow (\forall X2. (m2_funct_2 X2 X0 k2_numbers \\
& (k9_funct_2 X0 k2_numbers)) \Rightarrow (\forall X3. (m1_subset_1 X3 k2_numbers) \Rightarrow \\
& ((r2_funct_2 X0 k2_numbers X1 (k2_funcsdom X0 k2_numbers k2_numbers \\
& (k9_funct_2 X0 k2_numbers) (k3_cfuncdom X0) (k1_domain_1 k2_numbers \\
& (k9_funct_2 X0 k2_numbers) X3 X2))) \Leftrightarrow (\forall X4. (m1_subset_1 \\
& X4 X0) \Rightarrow (k3_funct_2 X0 k2_numbers X1 X4 = k9_complex1 X3 (k3_funct_2 \\
& X0 k2_numbers X2 X4))))))
\end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\
& ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\
& X3) \Rightarrow (r2_funct_2 X0 X1 X3 X2))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1)\wedge(m1_funct_2 X2 X0 X1))\Rightarrow(\forall X3.(m2_funct_2 X3 X0 X1 X2)\Leftrightarrow(m1_subset_1 X3 X2)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k2_numbers)\wedge(m1_subset_1 X1 k2_numbers))\Rightarrow(k9_complex1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1)\wedge(m1_funct_2 X2 X0 X1))\Rightarrow(\forall X3.(m2_funct_2 X3 X0 X1 X2)\Rightarrow((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_funct_2 X2 X0 X1)\Rightarrow(\neg v1_xboole_0 X2) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (9)$$

Assume the following.

$$m1_subset_1 k6_complex1 k2_numbers \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge(((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0)))\Rightarrow(m1_subset_1 (k3_funct_2 X0 X1 X2 X3) X1) \quad (11)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(((v1_funct_1 (k3_cfundom X0))\wedge((v1_funct_2 (k3_cfundom X0) (k2_zfmisc_1 k2_numbers (k9_funct_2 X0 k2_numbers)) (k9_funct_2 X0 k2_numbers))\wedge(m1_subset_1 (k3_cfundom X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k2_numbers (k9_funct_2 X0 k2_numbers)) (k9_funct_2 X0 k2_numbers)))))) \quad (12)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& ((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge((\neg v1_xboole_0 X2)\wedge(\\
& (\neg v1_xboole_0 X3)\wedge(((v1_funct_1 X4)\wedge((v1_funct_2 X4 (k2_zfmisc_1 \\
& X2 X3) (k9_funct_2 X0 X1))\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 X2 X3) (k9_funct_2 X0 X1))))))\wedge(m1_subset_1 X5 (k2_zfmisc_1 \\
& X2 X3))))))\Rightarrow(m2_funct_2 (k2_funcsdom X0 X1 X2 X3 X4 X5) X0 X1 (k9_funct_2 \\
& X0 X1))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& ((\neg v1_xboole_0 X1)\wedge((m1_subset_1 X2 X0)\wedge(m1_subset_1 X3 X1))))\Rightarrow \\
& (m1_subset_1 (k1_domain_1 X0 X1 X2 X3) (k2_zfmisc_1 X0 X1))
\end{aligned} \tag{14}$$

Assume the following.

$$k6_complex1 = np_1 \tag{15}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers)\Rightarrow(v1_xcmplx_0 X0) \tag{16}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m2_funct_2 X1 X0 k2_numbers \\
& (k9_funct_2 X0 k2_numbers))\Rightarrow(r2_funct_2 X0 k2_numbers (k2_funcsdom \\
& X0 k2_numbers k2_numbers (k9_funct_2 X0 k2_numbers) (k3_cfunccdom \\
& X0) (k1_domain_1 k2_numbers (k9_funct_2 X0 k2_numbers) k6_complex1 \\
& X1)) X1))
\end{aligned}$$