

t6_cc0sp2

(TMVxag4bkVTHXzpkcvD87qSSiytcDmiVxAT)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ be given. Let $v1_cc0sp2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k46_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k25_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_pre_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & \quad X0))) \Rightarrow (\forall X1. (v1_xcmplx_0 X1) \Rightarrow (\forall X2. ((v1_funct_1 \\ & \quad X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) k2_numbers) \wedge ((v1_cc0sp2 \\ & \quad X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & \quad X0) k2_numbers)))))) \Rightarrow ((v1_funct_1 (k25_valued_1 (u1_struct_0 \\ & \quad X0) k2_numbers X2 X1)) \wedge ((v1_funct_2 (k25_valued_1 (u1_struct_0 \\ & \quad X0) k2_numbers X2 X1) (u1_struct_0 X0) k2_numbers) \wedge ((v1_cc0sp2 \\ & \quad (k25_valued_1 (u1_struct_0 X0) k2_numbers X2 X1) X0) \wedge (m1_subset_1 \\ & \quad (k25_valued_1 (u1_struct_0 X0) k2_numbers X2 X1) (k1_zfmisc_1 \\ & \quad (k2_zfmisc_1 (u1_struct_0 X0) k2_numbers)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 \\
& X0) k2_numbers) \wedge ((v1_cc0sp2 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) k2_numbers)))))) \Rightarrow (\forall X2. \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) k2_numbers) \wedge \\
& ((v1_cc0sp2 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) k2_numbers)))))) \Rightarrow ((v1_funct_1 (k11_pre_poly \\
& (u1_struct_0 X0) X1 X2) \wedge ((v1_funct_2 (k11_pre_poly (u1_struct_0 \\
& X0) X1 X2) (u1_struct_0 X0) k2_numbers) \wedge ((v1_cc0sp2 (k11_pre_poly \\
& (u1_struct_0 X0) X1 X2) X0) \wedge (m1_subset_1 (k11_pre_poly (u1_struct_0 \\
& X0) X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) k2_numbers))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\
& ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v1_membered \\
& X1) \wedge ((v1_membered X2) \wedge (((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))) \wedge ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X2)))))) \Rightarrow (k46_valued_1 X0 X1 X2 X3 X4 = k45_valued_1 \\
& X3 X4)
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((v1_membered X1) \wedge \\
& (((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))) \wedge (v1_xcmplx_0 X3)) \Rightarrow (k25_valued_1 X0 X1 X2 X3 = k24_valued_1 \\
& X2 X3)
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (k1_real_1 X0 = k4_xcmplx_0 X0) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge (v1_valued_0 X1)))))) \wedge \\
& ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge ((v1_partfun1 \\
& X2 X0) \wedge (v1_valued_0 X2)))))) \Rightarrow (k11_pre_poly X0 X1 X2 = k1_valued_1 \\
& X1 X2)
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X1)\wedge(v1_membered \\ & X1))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((v1_funct_1 (k30_valued_1 \\ & X2))\wedge(v1_partfun1 (k30_valued_1 X2) X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (9)$$

Assume the following.

$$v1_membered k2_numbers \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v1_membered \\ & X1)\wedge((v1_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\Rightarrow((v1_funct_1 (k46_valued_1 X0 X1 X2 \\ & X3 X4))\wedge(m1_subset_1 (k46_valued_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k2_numbers)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_membered X1)\wedge \\ & (((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1))))\wedge(v1_xcmplx_0 X3)))\Rightarrow((v1_funct_1 (k25_valued_1 X0 X1 \\ & X2 X3))\wedge(m1_subset_1 (k25_valued_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k2_numbers)))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(m1_subset_1 (k1_real_1 X0) k1_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow \\ & (\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 \\ & X1))))\Rightarrow(k45_valued_1 X0 X1 = k1_valued_1 X0 (k30_valued_1 X1)) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow (k30_valued_1 X0 = k24_valued_1 X0 (k4_xcmplx_0 np_1)) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 \\ & X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 X1))))\Rightarrow \\ & (k1_valued_1 X0 X1 = k1_valued_1 X1 X0) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(\forall X2.(m1_subset_1 \\ X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v1_funct_2 X2 X0 X1)\Rightarrow(\\ v1_partfun1 X2 X0))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xcmplx_0 X0) \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_membered X1)\Rightarrow(\forall X2.(m1_subset_1 \\ X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_valued_0 X2)) \end{aligned} \quad (21)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc \\ X0)))\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 (u1_struct_0 \\ X0) k2_numbers)\wedge((v1_cc0sp2 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 (u1_struct_0 X0) k2_numbers))))))\Rightarrow(\forall X2. \\ ((v1_funct_1 X2)\wedge((v1_funct_2 X2 (u1_struct_0 X0) k2_numbers)\wedge \\ ((v1_cc0sp2 X2 X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ (u1_struct_0 X0) k2_numbers))))))\Rightarrow((v1_funct_1 (k46_valued_1 \\ (u1_struct_0 X0) k2_numbers k2_numbers X1 X2))\wedge((v1_funct_2 (\\ k46_valued_1 (u1_struct_0 X0) k2_numbers k2_numbers X1 X2) (u1_struct_0 \\ X0) k2_numbers)\wedge((v1_cc0sp2 (k46_valued_1 (u1_struct_0 X0) k2_numbers \\ k2_numbers X1 X2) X0)\wedge(m1_subset_1 (k46_valued_1 (u1_struct_0 \\ X0) k2_numbers k2_numbers X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ X0) k2_numbers)))))))))) \end{aligned}$$