

t5_clvect_3

(TMVg5VhFLKJ2S8TcFLTG5CMwz95Y6WAhd7a)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v2_clvect_1 : \iota \Rightarrow o$ be given. Let $v3_clvect_1 : \iota \Rightarrow o$ be given. Let $v4_clvect_1 : \iota \Rightarrow o$ be given. Let $v5_clvect_1 : \iota \Rightarrow o$ be given. Let $v2_csspace : \iota \Rightarrow o$ be given. Let $l1_csspace : \iota \Rightarrow o$ 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 $k5_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k16_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_bhsp_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\
 & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v2_csspace \\
 & X0) \wedge (l1_csspace X0)))))))))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge \\
 & ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 X1 \\
 & (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\
 & (\forall X2. (v1_xcmplx_0 X2) \Rightarrow (k1_bhsp_4 X0 (k6_clvect_1 X0 X1 \\
 & X2) = k6_clvect_1 X0 (k1_bhsp_4 X0 X1) X2)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\
 & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v2_csspace \\
 & X0) \wedge (l1_csspace X0)))))))))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge \\
 & ((v1_funct_2 X1 k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 X1 \\
 & (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0)))))) \Rightarrow \\
 & (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 \\
 & X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
 & X0)))))) \Rightarrow (k16_csspace X0 (k1_bhsp_4 X0 X1) (k1_bhsp_4 X0 X2) = k1_bhsp_4 \\
 & X0 (k16_csspace X0 X1 X2)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l1_csspace\ X0)\Rightarrow(l1_clvect_1\ X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge((v13_algstr_0 \\ & X0)\wedge((v2_rlvect_1\ X0)\wedge((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge \\ & ((v2_clvect_1\ X0)\wedge((v3_clvect_1\ X0)\wedge((v4_clvect_1\ X0)\wedge((v5_clvect_1 \\ & X0)\wedge(l1_clvect_1\ X0))))))))))\wedge(((v1_funct_1\ X1)\wedge((v1_funct_2 \\ & X1\ k5_numbers\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ k5_numbers\ (u1_struct_0\ X0))))))\wedge(v1_xcmplx_0 \\ & X2)))\Rightarrow((v1_funct_1\ (k6_clvect_1\ X0\ X1\ X2))\wedge((v1_funct_2\ (k6_clvect_1 \\ & X0\ X1\ X2)\ k5_numbers\ (u1_struct_0\ X0))\wedge(m1_subset_1\ (k6_clvect_1 \\ & X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0\ X0)))))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0)\wedge((v13_algstr_0\ X0)\wedge((v2_rlvect_1 \\ & X0)\wedge((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge((v2_clvect_1\ X0)\wedge \\ & ((v3_clvect_1\ X0)\wedge((v4_clvect_1\ X0)\wedge((v5_clvect_1\ X0)\wedge((v2_csspace \\ & X0)\wedge(l1_csspace\ X0))))))))))\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge \\ & ((v1_funct_2\ X1\ k5_numbers\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X1 \\ & (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0\ X0))))))\Rightarrow \\ & (\forall X2.((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ k5_numbers\ (u1_struct_0 \\ & X0))\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ (u1_struct_0 \\ & X0))))))\Rightarrow(\forall X3.(v1_xcmplx_0\ X3)\Rightarrow(\forall X4.(v1_xcmplx_0 \\ & X4)\Rightarrow(k16_csspace\ X0\ (k6_clvect_1\ X0\ (k1_bhsp_4\ X0\ X1)\ X3)\ (k6_clvect_1 \\ & X0\ (k1_bhsp_4\ X0\ X2)\ X4) = k1_bhsp_4\ X0\ (k16_csspace\ X0\ (k6_clvect_1 \\ & X0\ X1\ X3)\ (k6_clvect_1\ X0\ X2\ X4)))))) \end{aligned}$$