

l46_clvect_1

(TMHTs928ofkV39WAtEKUYMTJVIZENAsj2tb)

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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 $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_clvect_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_clvect_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2. (v1_xcmplx_0 X2) \Rightarrow (\forall X3. (m1_clvect_1 X3 X0) \Rightarrow \\ & (\forall X4. (m1_subset_1 X4 (u1_struct_0 X3)) \Rightarrow ((X4 = X1) \Rightarrow (k1_clvect_1 X3 X4 X2 = k1_clvect_1 X0 X1 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_clvect_1 X3 X0) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X3)) \Rightarrow (\forall X5. \\ & (m1_subset_1 X5 (u1_struct_0 X3)) \Rightarrow (((X4 = X1) \wedge (X5 = X2)) \Rightarrow (k3_rlvect_1 X3 X4 X5 = k3_rlvect_1 X0 X1 X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1)\Rightarrow(m1_subset_1 X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 \\ &X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v2_clvect_1 X0)\wedge \\ &((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 X0)\wedge(l1_clvect_1 \\ &X0))))))))))\Rightarrow(\forall X1.(m1_clvect_1 X1 X0)\Rightarrow((\neg v2_struct_0 \\ &X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge \\ &((v4_rlvect_1 X1)\wedge((v2_clvect_1 X1)\wedge((v3_clvect_1 X1)\wedge((v4_clvect_1 \\ &X1)\wedge((v5_clvect_1 X1)\wedge(l1_clvect_1 X1))))))))))) \quad (6) \end{aligned}$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1_clvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(((v2_rlvect_1 X0)\wedge(l1_algstr_0 \\ &X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 \\ &X0))))\Rightarrow(m1_subset_1 (k3_rlvect_1 X0 X1 X2) (u1_struct_0 X0)) \quad (9) \end{aligned}$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_clvect_1 \\ &X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(v1_xcmplx_0 X2)))\Rightarrow \\ &(m1_subset_1 (k1_clvect_1 X0 X1 X2) (u1_struct_0 X0)) \quad (10) \end{aligned}$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 \\ &X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v2_clvect_1 X0)\wedge \\ &((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 X0)\wedge(l1_clvect_1 \\ &X0))))))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ &X0)))\Rightarrow((v6_clvect_1 X1 X0)\Leftrightarrow((\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ &X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(((X2 \in X1)\wedge \\ &(X3 \in X1))\Rightarrow(k3_rlvect_1 X0 X2 X3 \in X1))))))\wedge(\forall X2.(v1_xcmplx_0 \\ &X2)\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow((X3 \in X1)\Rightarrow \\ &(k1_clvect_1 X0 X3 X2 \in X1)))))) \quad (11) \end{aligned}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge (v4_clvect_1 X0) \wedge (v5_clvect_1 X0) \wedge (l1_clvect_1 \\ & X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2. (m1_clvect_1 X2 X0) \Rightarrow ((u1_struct_0 X2 = X1) \Rightarrow \\ & (v6_clvect_1 X1 X0)))) \end{aligned}$$