

t106_clvect_1

(TMb9vdLbUhMMZ4FqRMKvQkxc2zEVZJraJJH)

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Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. 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 $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ 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 $v8_clvect_1 : \iota \Rightarrow o$ be given. Let $l2_clvect_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v2_rlvect_1 X0) \wedge (l1_algstr_0 \\ & X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ & X0)))) \Rightarrow (k3_rlvect_1 X0 X1 X2 = k1_algstr_0 X0 X1 X2) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l2_clvect_1 X0) \Rightarrow ((l1_clvect_1 X0) \wedge (l2_normsp_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l1_clvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_clvect_1 \\ & X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (v1_xcmplx_0 X2))) \Rightarrow \\ & (m1_subset_1 (k1_clvect_1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l2_clvect_1 X0)) \Rightarrow ((v8_clvect_1 \\
& \quad X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(v1_xcmplx_0 X3) \Rightarrow \\
& \quad ((k1_normsp_0 X0 (k1_clvect_1 X0 X1 X3) = k8_real_1 (k17_complex1 \\
& \quad X3) (k1_normsp_0 X0 X1)) \wedge (r1_xxreal_0 (k1_normsp_0 X0 (k1_algstr_0 \\
& \quad X0 X1 X2)) (k7_real_1 (k1_normsp_0 X0 X1) (k1_normsp_0 X0 X2))))))))) \\
& \hspace{15em} (6)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (\forall X2. \\
& \quad ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((\\
& \quad v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge ((v3_normsp_0 X2) \wedge ((v4_normsp_0 \\
& \quad X2) \wedge ((v2_clvect_1 X2) \wedge ((v3_clvect_1 X2) \wedge ((v4_clvect_1 X2) \wedge \\
& \quad ((v5_clvect_1 X2) \wedge ((v8_clvect_1 X2) \wedge (l2_clvect_1 X2))))))))))))) \Rightarrow \\
& \quad (\forall X3.(m1_subset_1 X3 (u1_struct_0 X2)) \Rightarrow (\forall X4.(m1_subset_1 \\
& \quad X4 (u1_struct_0 X2)) \Rightarrow (r1_xxreal_0 (k1_normsp_0 X2 (k3_rlvect_1 \\
& \quad X2 (k1_clvect_1 X2 X3 X0) (k1_clvect_1 X2 X4 X1)) (k7_real_1 (k8_real_1 \\
& \quad (k17_complex1 X0) (k1_normsp_0 X2 X3)) (k8_real_1 (k17_complex1 \\
& \quad X1) (k1_normsp_0 X2 X4)))))))))
\end{aligned}$$