

t26_csspace
(TMVycN3dji7RfhftXnh1BueKj4EGTZEa3nb)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k12_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_complex1 : \iota \Rightarrow \iota$ be given. Let $k4_complex1 : \iota \Rightarrow \iota$ be given. Let $k15_complex1 : \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v2_csspace \\ & X0) \wedge (l1_csspace X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (\\ & u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow \\ & (k12_csspace X0 (k4_algstr_0 X0 X1) X2 = k4_xcmplx_0 (k12_csspace \\ & X0 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k2_xcmplx_0 X0 (k4_xcmplx_0 X1) = k6_xcmplx_0 X0 X1) \tag{2}$$

Assume the following.

$$\exists X0. v1_xcmplx_0 X0 \tag{3}$$

Assume the following.

$$\forall X0. (l1_csspace X0) \Rightarrow (l1_clvect_1 X0) \tag{4}$$

Assume the following.

$$\forall X0.(l1_clvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0 X0) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_csspace X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (v1_xcmplx_0 (k12_csspace X0 X1 X2)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_csspace X0)) \Rightarrow & ((v2_csspace X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X4.(v1_xcmplx_0 X4) \Rightarrow (((k12_csspace \\ & X0 X1 X1 = k6_numbers) \Rightarrow (X1 = k4_struct_0 X0)) \wedge ((X1 = k4_struct_0 \\ & X0) \Rightarrow (k12_csspace X0 X1 X1 = k6_numbers)) \wedge ((r1_xxreal_0 k6_numbers \\ & (k3_complex1 (k12_csspace X0 X1 X1))) \wedge ((k6_numbers = k4_complex1 \\ & (k12_csspace X0 X1 X1)) \wedge ((k12_csspace X0 X1 X2 = k15_complex1 (k12_csspace \\ & X0 X2 X1)) \wedge ((k12_csspace X0 (k1_algstr_0 X0 X1 X2) X3 = k2_xcmplx_0 \\ & (k12_csspace X0 X1 X3) (k12_csspace X0 X2 X3)) \wedge (k12_csspace X0 (\\ & k1_clvect_1 X0 X1 X4) X2 = k3_xcmplx_0 X4 (k12_csspace X0 X1 X2)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k5_algstr_0 X0 X1 X2 = k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2)))) \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v2_csspace \\ & X0) \wedge (l1_csspace X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (\\ & u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k12_csspace X0 \\ & (k5_algstr_0 X0 X1 X2) X3 = k6_xcmplx_0 (k12_csspace X0 X1 X3) (k12_csspace \\ & X0 X2 X3)))))) \end{aligned}$$