

t47_csspace (TMTB- jRu4GG3UuNNg6pADsYuERyKAz8bAF7TK)

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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 $k13_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k7_square_1 : \iota \Rightarrow \iota$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0. (l1_csspace X0) \Rightarrow (l1_clvect_1 X0) \tag{2}$$

Assume the following.

$$\forall X0. (l1_clvect_1 X0) \Rightarrow (l2_algstr_0 X0) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. ((l2_algstr_0 X0) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k4_algstr_0 X0 X1) (u1_struct_0 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge (v4_clvect_1 X0) \wedge (v5_clvect_1 X0) \wedge (v2_csspace \\
& X0) \wedge (l1_csspace X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (\\
& u1_struct_0 X0)) \Rightarrow (k13_csspace X0 X1 = k7_square_1 (k17_complex1 \\
& (k12_csspace X0 X1 X1))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge (v4_clvect_1 X0) \wedge (v5_clvect_1 X0) \wedge (v2_csspace \\
& X0) \wedge (l1_csspace X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (\\
& u1_struct_0 X0)) \Rightarrow (k13_csspace X0 (k4_algstr_0 X0 X1) = k13_csspace \\
& X0 X1))
\end{aligned}$$