

t25_clopan1

(TMcABrt1Pjf4eRCyeFqUQSs1bnzjM6uRAxo)

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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 $v3_normsp_0 : \iota \Rightarrow o$ 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 $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_clopan1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ 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 $k8_clopan1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_clopan1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $g1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_clvect_1 X1 X0) \Rightarrow (k4_struct_0 X1 = \\ & k4_struct_0 X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge \\ & ((v4_normsp_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 \\ & X0) \wedge ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge (l2_clvect_1 X0)))))))))) \Rightarrow \\ & (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge \\ & ((v4_normsp_0 X1) \wedge ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 \\ & X1) \wedge ((v5_clvect_1 X1) \wedge ((v8_clvect_1 X1) \wedge (l2_clvect_1 X1)))))))))) \Rightarrow \\ & (v6_clvect_1 (k8_clopan1 X0 X1) (k6_clopan1 X0 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\
& X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 X1) \wedge ((v5_clvect_1 \\
& X1) \wedge (l1_clvect_1 X1)))))))))) \Rightarrow (k4_struct_0 (k6_clopban1 X0 \\
& X1) = k8_funcop_1 (u1_struct_0 X1) (u1_struct_0 X0) (k4_struct_0 \\
& X1)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow ((v6_clvect_1 X1 X0) \Rightarrow ((v1_xboole_0 X1) \vee (m1_clvect_1 (\\
& g1_clvect_1 X1 (k10_csspace X0 X1) (k8_csspace X0 X1) (k9_csspace \\
& X0 X1)) X0)))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\
& ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge \\
& ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge (l2_clvect_1 \\
& X0)))))))))) \wedge ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge \\
& ((v4_normsp_0 X1) \wedge ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 \\
& X1) \wedge ((v5_clvect_1 X1) \wedge ((v8_clvect_1 X1) \wedge (l2_clvect_1 X1)))))))))) \Rightarrow \\
& (\neg v1_xboole_0 (k8_clopban1 X0 X1))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.(l2_clvect_1 X0) \Rightarrow ((l1_clvect_1 X0) \wedge (l2_normsp_0 X0)) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\
& ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge \\
& ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge (l2_clvect_1 \\
& X0)))))))))) \wedge ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge \\
& ((v4_normsp_0 X1) \wedge ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 \\
& X1) \wedge ((v5_clvect_1 X1) \wedge ((v8_clvect_1 X1) \wedge (l2_clvect_1 X1)))))))))) \Rightarrow \\
& (m1_subset_1 (k8_clopan1 X0 X1) (k1_zfmisc_1 (u1_struct_0 (k6_clopan1 \\
& X0 X1))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\
& ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 \\
& X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge \\
& (l1_clvect_1 X0)))))))) \wedge ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\
& X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 X1) \wedge ((v5_clvect_1 \\
& X1) \wedge (l1_clvect_1 X1)))))))) \Rightarrow ((\neg v2_struct_0 (k6_clopan1 \\
& X0 X1)) \wedge ((v13_algstr_0 (k6_clopan1 X0 X1)) \wedge ((v2_rlvect_1 (k6_clopan1 \\
& X0 X1)) \wedge ((v3_rlvect_1 (k6_clopan1 X0 X1)) \wedge ((v4_rlvect_1 (k6_clopan1 \\
& X0 X1)) \wedge ((v2_clvect_1 (k6_clopan1 X0 X1)) \wedge ((v3_clvect_1 (k6_clopan1 \\
& X0 X1)) \wedge ((v4_clvect_1 (k6_clopan1 X0 X1)) \wedge ((v5_clvect_1 (k6_clopan1 \\
& X0 X1)) \wedge (l1_clvect_1 (k6_clopan1 X0 X1))))))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge \\
& ((v4_normsp_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 \\
& X0) \wedge ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge (l2_clvect_1 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge \\
& ((v4_normsp_0 X1) \wedge ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 \\
& X1) \wedge ((v5_clvect_1 X1) \wedge ((v8_clvect_1 X1) \wedge (l2_clvect_1 X1)))))))))) \Rightarrow \\
& (k9_clopan1 X0 X1 = g1_clvect_1 (k8_clopan1 X0 X1) (k10_csspace \\
& (k6_clopan1 X0 X1) (k8_clopan1 X0 X1)) (k8_csspace (k6_clopan1 \\
& X0 X1) (k8_clopan1 X0 X1)) (k9_csspace (k6_clopan1 X0 X1) (k8_clopan1 \\
& X0 X1))))
\end{aligned} \tag{9}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v3_normsp_0 X0) \wedge \\ & ((v4_normsp_0 X0) \wedge (v2_clvect_1 X0) \wedge (v3_clvect_1 X0) \wedge (v4_clvect_1 \\ & X0) \wedge (v5_clvect_1 X0) \wedge (v8_clvect_1 X0) \wedge (l2_clvect_1 X0)))))) \Rightarrow \\ & (\forall X1. ((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v2_rlvect_1 \\ & X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v3_normsp_0 X1) \wedge \\ & ((v4_normsp_0 X1) \wedge (v2_clvect_1 X1) \wedge (v3_clvect_1 X1) \wedge (v4_clvect_1 \\ & X1) \wedge (v5_clvect_1 X1) \wedge (v8_clvect_1 X1) \wedge (l2_clvect_1 X1)))))) \Rightarrow \\ & (k4_struct_0 (k9_clpban1 X0 X1) = k8_funcop_1 (u1_struct_0 X1) \\ & (u1_struct_0 X0) (k4_struct_0 X1)) \end{aligned}$$