

t32_symssp_1 (TMKvkP- SUhEUFGZu6whBUeQxvaySaQeZi2DF)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ 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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v8_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v11_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_symssp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_symssp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_symssp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_symssp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
& ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((\\
& v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 \\
& X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge ((v2_symssp_1 \\
& X1 X0) \wedge (l1_symssp_1 X1 X0)))))))))) \Rightarrow (\forall X2. (m1_subset_1 \\
& X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 \\
& X1)) \Rightarrow ((r1_orders_2 X1 X2 X3) \Rightarrow (r1_orders_2 X1 X3 X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
& ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((\\
& v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 \\
& X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge ((v2_symsp_1 \\
& X1 X0) \wedge (l1_symsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X1)) \Rightarrow (r1_orders_2 X1 (k4_struct_0 X1) X2))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \tag{3}$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (m1_subset_1 (k4_struct_0 X0) (u1_struct_0 X0)) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
& ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((\\
& v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 \\
& X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge ((v2_symsp_1 \\
& X1 X0) \wedge (l1_symsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& X1)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\forall X5. \\
& (m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (\neg(\neg r1_orders_2 X1 X5 X4) \wedge (\\
& k3_rlvect_1 X0 (k1_group_1 X0) (k1_group_1 X0) \neq k4_struct_0 X0) \wedge \\
& (\neg \forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow ((\exists X7. \\
& (m1_subset_1 X7 (u1_struct_0 X1)) \wedge ((\neg r1_orders_2 X1 X7 X4) \wedge (\neg \\
& r1_orders_2 X1 X7 X2))) \Rightarrow ((X6 = k2_symsp_1 X0 X1 X2 X3 X4 X5) \Leftrightarrow (\forall X7. \\
& (m1_subset_1 X7 (u1_struct_0 X1)) \Rightarrow (\neg(\neg r1_orders_2 X1 X7 X4) \wedge (\\
& \neg r1_orders_2 X1 X7 X2) \wedge (X6 \neq k8_group_1 X0 (k8_group_1 X0 (k1_symsp_1 \\
& X0 X1 X4 X5 X7) (k1_symsp_1 X0 X1 X7 X4 X2)) (k1_symsp_1 X0 X1 X2 X7 X3)))))) \wedge \\
& ((\forall X7.(m1_subset_1 X7 (u1_struct_0 X1)) \Rightarrow (\neg(\neg r1_orders_2 \\
& X1 X7 X4) \wedge (\neg r1_orders_2 X1 X7 X2))) \Rightarrow ((X6 = k2_symsp_1 X0 X1 X2 X3 X4 \\
& X5) \Leftrightarrow (X6 = k4_struct_0 X0))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge (v33_algstr_0 X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge \\ & ((v4_rlvect_1 X0) \wedge (v3_group_1 X0) \wedge (v5_group_1 X0) \wedge (v4_vectsp_1 \\ & X0) \wedge (v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge ((\\ & v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v8_vectsp_1 X1 X0) \wedge (v9_vectsp_1 \\ & X1 X0) \wedge (v10_vectsp_1 X1 X0) \wedge (v11_vectsp_1 X1 X0) \wedge (v2_symsp_1 \\ & X1 X0) \wedge (l1_symsp_1 X1 X0)))))) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 \\ & X1)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\forall X5. \\ & (m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow ((X4 = k4_struct_0 X1) \Rightarrow ((k3_rlvect_1 \\ & X0 (k1_group_1 X0) (k1_group_1 X0) = k4_struct_0 X0) \vee ((r1_orders_2 \\ & X1 X2 X3) \vee (k2_symsp_1 X0 X1 X4 X5 X3 X2 = k4_struct_0 X0))))))))) \end{aligned}$$