

t41_lopban_3

(TMdK8FUD1svQ1A13fd9yg9mNxU1MBavriya)

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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 $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_normsp_1 : \iota \Rightarrow o$ be given. Let $v2_funcsdom : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v1_vectsp_1 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_lopban_2 : \iota \Rightarrow o$ be given. Let $l1_lopban_2 : \iota \Rightarrow o$ 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 $np_1 : \iota$ be given. Let $k1_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_lopban_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_lopban_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_lopban_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_funcsdom : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge ((v2_funcsdom X0) \wedge ((v3_group_1 X0) \wedge ((v1_vectsp_1 X0) \wedge ((v3_vectsp_1 X0) \wedge ((v5_lopban_2 X0) \wedge (l1_lopban_2 X0))))))))))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((\neg r1_xxreal_0 np_1 (k1_normsp_0 X0 X1)) \Rightarrow ((v1_lopban_3 (k5_lopban_3 X0 X1) X0) \wedge (v2_lopban_3 (k5_lopban_3 X0 X1) X0))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0. (l5_algstr_0 X0) \Rightarrow ((l4_algstr_0 X0) \wedge (l4_struct_0 X0)) \tag{3}$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0) \Rightarrow ((l3_struct_0 X0) \wedge (l3_algstr_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (5)$$

Assume the following.

$$\forall X0.(l1_normsp_1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l2_normsp_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1_lopban_2 X0) \Rightarrow ((l1_funcsdom X0) \wedge (l1_normsp_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1_funcsdom X0) \Rightarrow ((l6_algstr_0 X0) \wedge (l1_rlvect_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l3_struct_0 X0) \Rightarrow (m1_subset_1 (k5_struct_0 X0) (u1_struct_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l2_algstr_0 X0) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k5_algstr_0 X0 X1 X2) (u1_struct_0 X0)) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge ((v2_funcsdom X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v1_vectsp_1 X0) \wedge ((v3_vectsp_1 X0) \wedge ((v5_lopban_2 X0) \wedge (l1_lopban_2 X0)))))))))))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow ((\neg r1_xreal_0 np_1 (k1_normsp_0 X0 (k5_algstr_0 X0 (k5_struct_0 X0) X1))) \Rightarrow ((v1_lopban_3 (k5_lopban_3 X0 (k5_algstr_0 X0 (k5_struct_0 X0) X1)) X0) \wedge (v2_lopban_3 (k5_lopban_3 X0 (k5_algstr_0 X0 (k5_struct_0 X0) X1)) X0)))))) \end{aligned}$$