

t37_vectsp_2

(TMVn7yWYpQkq8EDHdZsn8JtbLEtJXqsGma9)

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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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v4_vectsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_vectsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_vectsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge \\ & ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 \\ & X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 \\ & (u1_struct_0 X0)) \Rightarrow ((X1 \neq k4_struct_0 X0) \Rightarrow ((k6_algstr_0 X0 X1 (\\ & k11_algstr_0 X0 X1) = k5_struct_0 X0) \wedge (k6_algstr_0 X0 (k11_algstr_0 \\ & X0 X1) X1 = k5_struct_0 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v4_vectsp_1 X0) \wedge (l4_algstr_0 X0))) \Rightarrow (k1_group_1 X0 = k5_struct_0 X0) \tag{2}$$

Assume the following.

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

Assume the following.

$$\forall X0. (l5_algstr_0 X0) \Rightarrow ((l4_algstr_0 X0) \wedge (l4_struct_0 X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((l5_algstr_0 X0)\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k11_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l6_algstr_0 X0))\Rightarrow(\forall X1. \\ & ((\neg v2_struct_0 X1)\wedge(l1_vectsp_2 X1 X0))\Rightarrow((v4_vectsp_2 X1 X0)\Leftrightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0))\Rightarrow(\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & X1))\Rightarrow(\forall X5.(m1_subset_1 X5 (u1_struct_0 X1))\Rightarrow((k5_vectsp_2 \\ & X0 X1 X2 (k1_algstr_0 X1 X4 X5) = k1_algstr_0 X1 (k5_vectsp_2 X0 X1 \\ & X2 X4) (k5_vectsp_2 X0 X1 X2 X5))\wedge((k5_vectsp_2 X0 X1 (k1_algstr_0 \\ & X0 X2 X3) X4 = k1_algstr_0 X1 (k5_vectsp_2 X0 X1 X2 X4) (k5_vectsp_2 \\ & X0 X1 X3 X4))\wedge((k5_vectsp_2 X0 X1 (k6_algstr_0 X0 X3 X2) X4 = k5_vectsp_2 \\ & X0 X1 X2 (k5_vectsp_2 X0 X1 X3 X4))\wedge(k5_vectsp_2 X0 X1 (k1_group_1 \\ & X0) X4 = X4)))))))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 \\ & X0)\wedge((v33_algstr_0 X0)\wedge((v3_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge \\ & ((v5_vectsp_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 \\ & X0)\wedge(l6_algstr_0 X0))))))))))\Rightarrow(\forall X1.(m1_subset_1 X1 \\ & (u1_struct_0 X0))\Rightarrow(\forall X2.((\neg v2_struct_0 X2)\wedge((v13_algstr_0 \\ & X2)\wedge((v3_rlvect_1 X2)\wedge((v4_rlvect_1 X2)\wedge((v4_vectsp_2 X2 X0)\wedge \\ & (l1_vectsp_2 X2 X0))))))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X2))\Rightarrow((X1\neq k4_struct_0 X0)\Rightarrow(k5_vectsp_2 X0 X2 (k11_algstr_0 X0 \\ & X1) (k5_vectsp_2 X0 X2 X1 X3) = X3)))))) \end{aligned}$$