

t36_vectsp_2

(TMXrQ4NcmsqZnvqPKMpUKMqRNfdLjX9sKYc)

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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 $k5_vectsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_vectsp_1 : \iota \Rightarrow o$ 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.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\ & X0) \wedge ((v3_vectsp_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge \\ & ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 \\ & X0)))))))))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_2 X1 X0) \wedge \\ & (l1_vectsp_2 X1 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow ((k5_vectsp_2 \\ & X0 X1 (k4_struct_0 X0) X3 = k4_struct_0 X1) \wedge ((k5_vectsp_2 X0 X1 (\\ & k4_algstr_0 X0 (k1_group_1 X0)) X3 = k4_algstr_0 X1 X3) \wedge (k5_vectsp_2 \\ & X0 X1 X2 (k4_struct_0 X1) = k4_struct_0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v4_vectsp_1 X0) \wedge (l4_algstr_0 X0))) \Rightarrow (k1_group_1 X0 = k5_struct_0 X0) \quad (3)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0) \Rightarrow ((l4_algstr_0 X0) \wedge (l4_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((l5_algstr_0 X0) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k11_algstr_0 X0 X1) (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_vectsp_2 X1 X0)) \Rightarrow ((v4_vectsp_2 X1 X0) \Leftrightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow ((k5_vectsp_2 \\ & X0 X1 X2 (k1_algstr_0 X1 X4 X5) = k1_algstr_0 X1 (k5_vectsp_2 X0 X1 \\ & X2 X4) (k5_vectsp_2 X0 X1 X2 X5)) \wedge ((k5_vectsp_2 X0 X1 (k1_algstr_0 \\ & X0 X2 X3) X4 = k1_algstr_0 X1 (k5_vectsp_2 X0 X1 X2 X4) (k5_vectsp_2 \\ & X0 X1 X3 X4)) \wedge ((k5_vectsp_2 X0 X1 (k6_algstr_0 X0 X3 X2) X4 = k5_vectsp_2 \\ & X0 X1 X2 (k5_vectsp_2 X0 X1 X3 X4)) \wedge (k5_vectsp_2 X0 X1 (k1_group_1 \\ & X0) X4 = X4)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v4_vectsp_1 X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_vectsp_1 X0) \wedge (v6_vectsp_1 X0)))) \quad (8)$$

Theorem 1

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