

t38_vectsp_9

(TManviW4sb1YwaUiVGtnfAM7f3Fywct7xgL)

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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 $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ 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 $v7_ordinal1 : \iota \Rightarrow o$ 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 $v1_matrlin : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_vectsp_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_vectsp_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_vectsp_9 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\
& X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
& ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 \\
& X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 \\
& X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge \\
& ((v13_algstr_0 X2) \wedge ((v8_vectsp_1 X2 X0) \wedge ((v9_vectsp_1 X2 X0) \wedge \\
& ((v10_vectsp_1 X2 X0) \wedge ((v11_vectsp_1 X2 X0) \wedge ((v2_rlvect_1 X2) \wedge \\
& ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge (l1_vectsp_1 X2 X0)))))))))) \Rightarrow \\
& (\forall X3. ((\neg v2_struct_0 X3) \wedge ((v13_algstr_0 X3) \wedge ((v8_vectsp_1 \\
& X3 X0) \wedge ((v9_vectsp_1 X3 X0) \wedge ((v10_vectsp_1 X3 X0) \wedge ((v11_vectsp_1 \\
& X3 X0) \wedge ((v2_rlvect_1 X3) \wedge ((v3_rlvect_1 X3) \wedge ((v4_rlvect_1 X3) \wedge \\
& (l1_vectsp_1 X3 X0)))))))))) \Rightarrow (((m1_vectsp_4 X1 X0 X2) \wedge (m1_vectsp_4 \\
& X2 X0 X3)) \Rightarrow (m1_vectsp_4 X1 X0 X3)))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \wedge \\
& ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. (m1_vectsp_4 X2 X0 \\
& X1) \Rightarrow ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v8_vectsp_1 X2 \\
& X0) \wedge ((v9_vectsp_1 X2 X0) \wedge ((v10_vectsp_1 X2 X0) \wedge ((v11_vectsp_1 \\
& X2 X0) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge \\
& (l1_vectsp_1 X2 X0))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\
& X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (v1_matrlin X1 X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. \\
& (v7_ordinal1 X2) \Rightarrow (\forall X3. (X3 = k2_vectsp_9 X0 X1 X2) \Leftrightarrow (\forall X4. \\
& (X4 \in X3) \Leftrightarrow (\exists X5. ((v7_vectsp_1 X5 X0) \wedge (m1_vectsp_4 X5 X0 X1)) \wedge \\
& ((X5 = X4) \wedge (k1_vectsp_9 X0 X5 = X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge \\
& ((v13_algstr_0 X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 \\
& X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
& ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \wedge \\
& ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (v1_matrlin X1 X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. \\
& (m1_vectsp_4 X2 X0 X1) \Rightarrow (v1_matrlin X2 X0))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 X0) \wedge (v13_algstr_0 \\ & X0) \wedge (v33_algstr_0 X0) \wedge (v3_group_1 X0) \wedge (v5_group_1 X0) \wedge \\ & (v4_vectsp_1 X0) \wedge (v5_vectsp_1 X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 \\ & X0) \wedge (v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))) \Rightarrow (\forall X1. \\ & (v7_ordinal1 X1) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge (v13_algstr_0 \\ & X2) \wedge (v8_vectsp_1 X2 X0) \wedge (v9_vectsp_1 X2 X0) \wedge (v10_vectsp_1 \\ & X2 X0) \wedge (v11_vectsp_1 X2 X0) \wedge (v2_rlvect_1 X2) \wedge (v3_rlvect_1 \\ & X2) \wedge (v4_rlvect_1 X2) \wedge (v1_matrlin X2 X0) \wedge (l1_vectsp_1 X2 X0)))))) \Rightarrow \\ & (\forall X3.(m1_vectsp_4 X3 X0 X2) \Rightarrow (r1_tarski (k2_vectsp_9 X0 \\ & X3 X1) (k2_vectsp_9 X0 X2 X1)))) \end{aligned}$$