

t35_vectsp10

(TMNJ5bCPPRziV9go6sNZNeeYqNr7rgAVtLu)

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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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ 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 $l1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v13_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_hahnban1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_vectsp_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_vectsp_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v13_algstr_0 \\ & X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 \\ & X0)))))) \wedge (((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v2_rlvect_1 \\ & X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\ & ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\ & X0) \wedge (l1_vectsp_1 X1 X0)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 X2 X1 X0) \wedge \\ & ((v1_hahnban1 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X1) (u1_struct_0 X0)))))) \Rightarrow ((\neg v2_struct_0 (\\ & k9_vectsp10 X0 X1 X2)) \wedge ((v7_vectsp_1 (k9_vectsp10 X0 X1 X2) X0) \wedge \\ & (m1_vectsp_4 (k9_vectsp10 X0 X1 X2) X0 X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 \\
& X0)))))))) \wedge (((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge (l1_vectsp_1 X1 X0)))))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 X2 X1 X0) \wedge \\
& ((v1_hahnban1 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X0)))))))))) \Rightarrow ((v1_funct_1 (k11_vectsp10 \\
& X0 X1 X2) \wedge ((v1_funct_2 (k11_vectsp10 X0 X1 X2) (u1_struct_0 (k6_vectsp10 \\
& X0 X1 (k9_vectsp10 X0 X1 X2))) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 \\
& (k11_vectsp10 X0 X1 X2) (k6_vectsp10 X0 X1 (k9_vectsp10 X0 X1 X2)) \\
& X0) \wedge ((v1_hahnban1 (k11_vectsp10 X0 X1 X2) X0 (k6_vectsp10 X0 X1 \\
& (k9_vectsp10 X0 X1 X2))) \wedge (m1_subset_1 (k11_vectsp10 X0 X1 X2) (\\
& k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k6_vectsp10 X0 X1 (k9_vectsp10 \\
& X0 X1 X2))) (u1_struct_0 X0))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
& (\forall X1. (((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge \\
& ((v1_funct_2 X2 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 \\
& X2 X1 X0) \wedge ((v1_hahnban1 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0)))))))))) \Rightarrow (k11_vectsp10 \\
& X0 X1 X2 = k10_vectsp10 X0 X1 (k9_vectsp10 X0 X1 X2) X2))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
& (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.(m1_vectsp_4 X2 X0 X1) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 X3 X1 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0)))))))))) \Rightarrow \\
& ((r1_tarski (u1_struct_0 X2) (k8_vectsp10 X0 X1 X3)) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (u1_struct_0 (k6_vectsp10 X0 X1 X2)) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 X4 (k6_vectsp10 X0 X1 X2) X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k6_vectsp10 X0 X1 X2)) (u1_struct_0 X0)))))))))) \Rightarrow ((X4 = k10_vectsp10 X0 X1 X2 X3) \Leftrightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 (k6_vectsp10 X0 X1 X2)))) \Rightarrow (\forall X6.(m1_subset_1 X6 (u1_struct_0 X1)) \Rightarrow ((X5 = k3_vectsp_4 X0 X1 X6 X2) \Rightarrow (k3_funct_2 (u1_struct_0 (k6_vectsp10 X0 X1 X2)) (u1_struct_0 X0) X4 X5 = k3_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) X3 X6)))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
& (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 X2 X1 X0) \wedge ((v1_hahnban1 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0)))))))))) \Rightarrow (\forall X3. ((\neg v2_struct_0 X3) \wedge ((v7_vectsp_1 X3 X0) \wedge (m1_vectsp_4 X3 X0 X1))) \Rightarrow ((X3 = k9_vectsp10 X0 X1 X2) \Leftrightarrow (u1_struct_0 X3 = k8_vectsp10 X0 X1 X2))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\ & ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\ & X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v13_vectsp_1 \\ & X2 X1 X0) \wedge ((v1_hahnban1 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0)))))))))) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 (k6_vectsp10 X0 X1 (k9_vectsp10 X0 \\ & X1 X2)))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow ((X3 = \\ & k3_vectsp_4 X0 X1 X4 (k9_vectsp10 X0 X1 X2)) \Rightarrow (k3_funct_2 (u1_struct_0 \\ & (k6_vectsp10 X0 X1 (k9_vectsp10 X0 X1 X2)) (u1_struct_0 X0) (k11_vectsp10 \\ & X0 X1 X2) X3 = k3_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) X2 X4)))))) \end{aligned}$$