

t53_vectsp_5

(TMMQLgJGtoVsuR8frGP8uHSG49DjqQkayV)

October 27, 2020

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 $v8_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_vectsp_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
 & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
 & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\
 & X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
 & ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
 & ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
 & X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
 & (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. (m1_vectsp_4 X2 X0 X1) \Rightarrow \\
 & (\forall X3. (m1_vectsp_5 X3 X0 X1 X2) \Rightarrow ((r1_vectsp_5 X0 X1 X3 X2) \wedge \\
 & (r1_vectsp_5 X0 X1 X2 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 \\
& X0) \wedge ((v13_algstr_0 X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge \\
& ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \wedge \\
& (((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (l1_vectsp_1 X1 X0)))))))))) \wedge (m1_vectsp_4 X2 X0 X1)) \Rightarrow (\forall X3. \\
& (m1_vectsp_5 X3 X0 X1 X2) \Rightarrow (m1_vectsp_4 X3 X0 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((\neg v2_struct_0 \\
& X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge \\
& ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 \\
& X0) \wedge (l6_algstr_0 X0)))))))) \wedge (((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 \\
& X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 \\
& X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1 X1) \wedge (l1_vectsp_1 X1 X0)))))))))) \wedge ((m1_subset_1 \\
& X2 (u1_struct_0 X1)) \wedge ((m1_vectsp_4 X3 X0 X1) \wedge (m1_vectsp_4 X4 X0 \\
& X1)))) \Rightarrow (m1_subset_1 (k4_vectsp_5 X0 X1 X2 X3 X4) (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X1)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\
& X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
& ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow \\
& (\forall X1. (((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 \\
& X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 \\
& X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\
& X1)) \Rightarrow (\forall X3. (m1_vectsp_4 X3 X0 X1) \Rightarrow (\forall X4. (m1_vectsp_4 \\
& X4 X0 X1) \Rightarrow ((r1_vectsp_5 X0 X1 X3 X4) \Rightarrow (\forall X5. (m1_subset_1 X5 \\
& (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X1))) \Rightarrow ((X5 = k4_vectsp_5 \\
& X0 X1 X2 X3 X4) \Leftrightarrow ((X2 = k3_rlvect_1 X1 (k2_domain_1 (u1_struct_0 X1) \\
& (u1_struct_0 X1) X5) (k3_domain_1 (u1_struct_0 X1) (u1_struct_0 \\
& X1) X5)) \wedge ((r1_struct_0 X3 (k2_domain_1 (u1_struct_0 X1) (u1_struct_0 \\
& X1) X5)) \wedge (r1_struct_0 X4 (k3_domain_1 (u1_struct_0 X1) (u1_struct_0 \\
& X1) X5))))))))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\ & ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\ & X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ & (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.(m1_vectsp_4 X2 X0 X1) \Rightarrow \\ & (\forall X3.(m1_vectsp_5 X3 X0 X1 X2) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 (u1_struct_0 X1) \Rightarrow (k3_rlvect_1 X1 (k2_domain_1 (u1_struct_0 \\ & X1) (u1_struct_0 X1) (k4_vectsp_5 X0 X1 X4 X2 X3)) (k3_domain_1 (\\ & u1_struct_0 X1) (u1_struct_0 X1) (k4_vectsp_5 X0 X1 X4 X2 X3)) = X4)))))) \end{aligned}$$