

t47_vectsp_5 (TMb- SMQvSh9UVCbBrKfARuimYNmLT2Lim2o5)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ 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 $v7_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\
& X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
& ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 \\
& X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 \\
& X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. (m1_vectsp_4 X2 X0 X1) \Rightarrow \\
& (\forall X3. (m1_vectsp_4 X3 X0 X1) \Rightarrow ((k1_vectsp_5 X0 X1 X2 X3 = g1_vectsp_1 \\
& X0 (u1_struct_0 X1) (u1_algstr_0 X1) (u2_struct_0 X1) (u1_vectsp_1 \\
& X0 X1)) \Leftrightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\exists X5. \\
& (m1_subset_1 X5 (u1_struct_0 X1)) \wedge (\exists X6. (m1_subset_1 X6 \\
& (u1_struct_0 X1)) \wedge ((r1_struct_0 X2 X5) \wedge ((r1_struct_0 X3 X6) \wedge \\
& (X4 = k3_rlvect_1 X1 X5 X6))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (3)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((l1_struct_0 X0) \wedge (l1_vectsp_1 X1 X0)) \Rightarrow \\ & ((v7_vectsp_1 X1 X0) \Rightarrow (X1 = g1_vectsp_1 X0 (u1_struct_0 X1) (u1_algstr_0 \\ & \quad X1) (u2_struct_0 X1) (u1_vectsp_1 X0 X1))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\ & \quad X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\ & \quad ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ & (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v7_vectsp_1 \\ & \quad X1 X0) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 \\ & \quad X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\ & \quad X1) \wedge ((v4_rlvect_1 X1) \wedge (l1_vectsp_1 X1 X0)))))))))))))) \Rightarrow (\forall X2. \\ & (m1_vectsp_4 X2 X0 X1) \Rightarrow (\forall X3. (m1_vectsp_4 X3 X0 X1) \Rightarrow ((k1_vectsp_5 \\ & \quad X0 X1 X2 X3 = X1) \Leftrightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow \\ & \quad (\exists X5. (m1_subset_1 X5 (u1_struct_0 X1)) \wedge (\exists X6. (m1_subset_1 \\ & \quad X6 (u1_struct_0 X1)) \wedge ((r1_struct_0 X2 X5) \wedge ((r1_struct_0 X3 X6) \wedge \\ & \quad (X4 = k3_rlvect_1 X1 X5 X6)))))))))) \end{aligned}$$