

t27_vectsp_5

(TMVrQr6L4Ny3di8RqRJJu2TyXZjGfnDUu9U7)

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 $v8_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
 & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.((v7_vectsp_1 X2 X0) \wedge (m1_vectsp_4 X2 X0 X1)) \Rightarrow (\forall X3.((v7_vectsp_1 X3 X0) \wedge (m1_vectsp_4 X3 X0 X1)) \Rightarrow ((u1_struct_0 X2 = u1_struct_0 X3) \Rightarrow (X2 = X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
 & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.(m1_vectsp_4 X2 X0 X1) \Rightarrow (\forall X3.(m1_vectsp_4 X3 X0 X1) \Rightarrow (\forall X4.(m1_vectsp_4 X4 X0 X1) \Rightarrow ((m1_vectsp_4 X2 X0 X3) \Rightarrow (u1_struct_0 (k2_vectsp_5 X0 X1 X3 (k1_vectsp_5 X0 X1 X2 X4)) = u1_struct_0 (k1_vectsp_5 X0 X1 (k2_vectsp_5 X0 X1 X2 X3) (k2_vectsp_5 X0 X1 X3 X4))))))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X0)\wedge((v13_algstr_0 X0)\wedge((v3_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge \\ & ((v5_vectsp_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 \\ & X0)\wedge(l6_algstr_0 X0))))))))\wedge(((\neg v2_struct_0 X1)\wedge((v13_algstr_0 \\ & X1)\wedge((v8_vectsp_1 X1 X0)\wedge((v9_vectsp_1 X1 X0)\wedge((v10_vectsp_1 \\ & X1 X0)\wedge((v11_vectsp_1 X1 X0)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 \\ & X1)\wedge((v4_rlvect_1 X1)\wedge(l1_vectsp_1 X1 X0))))))))\wedge((m1_vectsp_4 \\ & X2 X0 X1)\wedge(m1_vectsp_4 X3 X0 X1)))\Rightarrow((v7_vectsp_1 (k2_vectsp_5 \\ & X0 X1 X2 X3) X0)\wedge(m1_vectsp_4 (k2_vectsp_5 X0 X1 X2 X3) X0 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X0)\wedge((v13_algstr_0 X0)\wedge((v3_group_1 X0)\wedge((v4_vectsp_1 X0)\wedge \\ & ((v5_vectsp_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 \\ & X0)\wedge(l6_algstr_0 X0))))))))\wedge(((\neg v2_struct_0 X1)\wedge((v13_algstr_0 \\ & X1)\wedge((v8_vectsp_1 X1 X0)\wedge((v9_vectsp_1 X1 X0)\wedge((v10_vectsp_1 \\ & X1 X0)\wedge((v11_vectsp_1 X1 X0)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 \\ & X1)\wedge((v4_rlvect_1 X1)\wedge(l1_vectsp_1 X1 X0))))))))\wedge((m1_vectsp_4 \\ & X2 X0 X1)\wedge(m1_vectsp_4 X3 X0 X1)))\Rightarrow((v7_vectsp_1 (k1_vectsp_5 \\ & X0 X1 X2 X3) X0)\wedge(m1_vectsp_4 (k1_vectsp_5 X0 X1 X2 X3) X0 X1)) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v3_group_1 \\ & X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge((v2_rlvect_1 X0)\wedge \\ & ((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge(l6_algstr_0 X0))))))))\Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v8_vectsp_1 \\ & X1 X0)\wedge((v9_vectsp_1 X1 X0)\wedge((v10_vectsp_1 X1 X0)\wedge((v11_vectsp_1 \\ & X1 X0)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge \\ & (l1_vectsp_1 X1 X0))))))))\Rightarrow(\forall X2.(m1_vectsp_4 X2 X0 X1)\Rightarrow \\ & (\forall X3.(m1_vectsp_4 X3 X0 X1)\Rightarrow(\forall X4.(m1_vectsp_4 X4 \\ & X0 X1)\Rightarrow((m1_vectsp_4 X2 X0 X3)\Rightarrow(k2_vectsp_5 X0 X1 X3 (k1_vectsp_5 \\ & X0 X1 X2 X4) = k1_vectsp_5 X0 X1 (k2_vectsp_5 X0 X1 X2 X3) (k2_vectsp_5 \\ & X0 X1 X3 X4)))))) \end{aligned}$$