

t28_lmod_6
(TMHCyG51udiRSaS7jLfT1tH4rjZbDGhfMfT)

October 27, 2020

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 $m1_vectsp_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_lmod_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vectsp_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\
& X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
& ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 \\
& X1 X0) \wedge ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 \\
& X1 X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2. (m1_vectsp_4 X2 X0 X1) \Rightarrow \\
& (\forall X3. (m1_vectsp_4 X3 X0 X1) \Rightarrow (\forall X4. (m1_vectsp_4 X4 \\
& X0 X1) \Rightarrow (m1_vectsp_4 (k1_vectsp_5 X0 X1 (k2_vectsp_5 X0 X1 X2 X3) \\
& (k2_vectsp_5 X0 X1 X3 X4)) X0 (k2_vectsp_5 X0 X1 X3 (k1_vectsp_5 X0 \\
& X1 X2 X4)))))))))
\end{aligned} \tag{1}$$

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.

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

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge \\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0))))))) \Rightarrow \\
& (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0 \\
& X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge \\
& ((v4_rlvect_1 X2) \wedge ((v8_vectsp_1 X2 X0) \wedge ((v9_vectsp_1 X2 X0) \wedge \\
& ((v10_vectsp_1 X2 X0) \wedge ((v11_vectsp_1 X2 X0) \wedge (l1_vectsp_1 X2 X0)))))))))) \Rightarrow \\
& ((r1_lmod_6 X0 X1 X2) \Leftrightarrow (m1_vectsp_4 X1 X0 X2)))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge \\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0))))))) \Rightarrow \\
& (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.(m1_vectsp_4 X2 \\
& X0 X1) \Rightarrow (\forall X3.(m1_vectsp_4 X3 X0 X1) \Rightarrow (\forall X4.(m1_vectsp_4 \\
& X4 X0 X1) \Rightarrow (r1_lmod_6 X0 (k1_vectsp_5 X0 X1 (k2_vectsp_5 X0 X1 X2 X3) \\
& (k2_vectsp_5 X0 X1 X3 X4)) (k2_vectsp_5 X0 X1 X3 (k1_vectsp_5 X0 X1 \\
& X2 X4))))))
\end{aligned}$$