

t34_rmod_3

(TMJS5mpq3RQmxoY7K5Gv3avtqHHG9eZG3Rh)

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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 $v4_vectsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_vectsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_rmod_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_rmod_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_vectsp_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\
 & X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
 & ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow \\
 & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
 & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_2 X1 X0) \wedge \\
 & (l1_vectsp_2 X1 X0)))))))) \Rightarrow (\forall X2.(m1_rmod_2 X2 X0 X1) \Rightarrow (\forall X3. \\
 & (m1_rmod_2 X3 X0 X1) \Rightarrow ((m1_rmod_2 X2 X0 (k1_rmod_3 X0 X1 X2 X3)) \wedge (\\
 & m1_rmod_2 X3 X0 (k1_rmod_3 X0 X1 X2 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\
 & X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
 & ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow \\
 & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
 & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_2 X1 X0) \wedge \\
 & (l1_vectsp_2 X1 X0)))))))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((\\
 & v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 \\
 & X2) \wedge ((v4_vectsp_2 X2 X0) \wedge (l1_vectsp_2 X2 X0)))))) \Rightarrow (\forall X3. \\
 & ((\neg v2_struct_0 X3) \wedge ((v13_algstr_0 X3) \wedge ((v2_rlvect_1 X3) \wedge ((\\
 & v3_rlvect_1 X3) \wedge ((v4_rlvect_1 X3) \wedge ((v4_vectsp_2 X3 X0) \wedge (l1_vectsp_2 \\
 & X3 X0)))))) \Rightarrow (((m1_rmod_2 X1 X0 X2) \wedge (m1_rmod_2 X2 X0 X3)) \Rightarrow (m1_rmod_2 \\
 & X1 X0 X3))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge \\
& ((v3_group_1 X0) \wedge (v4_vectsp_1 X0) \wedge (v5_vectsp_1 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))) \wedge \\
& ((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (\\
& v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_2 X1 X0) \wedge (l1_vectsp_2 \\
& X1 X0)))))) \Rightarrow (\forall X2. (m1_rmod_2 X2 X0 X1) \Rightarrow ((\neg v2_struct_0 \\
& X2) \wedge (v13_algstr_0 X2) \wedge (v2_rlvect_1 X2) \wedge (v3_rlvect_1 X2) \wedge \\
& ((v4_rlvect_1 X2) \wedge (v4_vectsp_2 X2 X0) \wedge (l1_vectsp_2 X2 X0))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\
& X0) \wedge (v13_algstr_0 X0) \wedge (v3_group_1 X0) \wedge (v4_vectsp_1 X0) \wedge \\
& ((v5_vectsp_1 X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 \\
& X0) \wedge (l6_algstr_0 X0)))))) \wedge (((\neg v2_struct_0 X1) \wedge (v13_algstr_0 \\
& X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge \\
& ((v4_vectsp_2 X1 X0) \wedge (l1_vectsp_2 X1 X0)))))) \wedge ((m1_rmod_2 X2 \\
& X0 X1) \wedge (m1_rmod_2 X3 X0 X1)) \Rightarrow ((v2_vectsp_2 (k1_rmod_3 X0 X1 X2 \\
& X3) X0) \wedge (m1_rmod_2 (k1_rmod_3 X0 X1 X2 X3) X0 X1))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v3_group_1 \\
& X0) \wedge (v4_vectsp_1 X0) \wedge (v5_vectsp_1 X0) \wedge (v2_rlvect_1 X0) \wedge \\
& ((v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v2_rlvect_1 \\
& X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_2 X1 X0) \wedge \\
& (l1_vectsp_2 X1 X0)))))) \Rightarrow (\forall X2. (m1_rmod_2 X2 X0 X1) \Rightarrow (\forall X3. \\
& (m1_rmod_2 X3 X0 X1) \Rightarrow (\forall X4. (m1_rmod_2 X4 X0 X1) \Rightarrow ((m1_rmod_2 \\
& X2 X0 X3) \Rightarrow (m1_rmod_2 X2 X0 (k1_rmod_3 X0 X1 X3 X4))))))
\end{aligned}$$