

t50_rmod_2

(TMZ2dTZBPT5U89D5MUfX86pd5rnDA5iJSxB)

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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_rmod_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_vectsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\
 & X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
 & ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow \\
 & (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 \\
 & X2) \wedge ((v4_rlvect_1 X2) \wedge ((v4_vectsp_2 X2 X0) \wedge (l1_vectsp_2 X2 X0))))))) \Rightarrow \\
 & (\forall X3. (m1_subset_1 X3 (u1_struct_0 X2)) \Rightarrow (\forall X4. (m1_rmod_2 \\
 & X4 X0 X2) \Rightarrow ((r1_struct_0 X4 X3) \Rightarrow (r1_struct_0 X4 (k5_vectsp_2 X0 \\
 & X2 X1 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\
 & X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\
 & ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))) \Rightarrow \\
 & (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
 & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_2 X1 X0) \wedge \\
 & (l1_vectsp_2 X1 X0))))))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\
 & X1)) \Rightarrow (\forall X3. (m1_rmod_2 X3 X0 X1) \Rightarrow ((r1_struct_0 X3 X2) \Leftrightarrow (k3_rmod_2 \\
 & X0 X1 X2 X3 = u1_struct_0 X3))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (3)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X0) \wedge (l1_struct_0 X0)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_vectsp_2 X1 X0)) \wedge \\ & ((m1_subset_1 X2 (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (u1_struct_0 \\ & X1)))))) \Rightarrow (m1_subset_1 (k5_vectsp_2 X0 X1 X2 X3) (u1_struct_0 X1)) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_group_1 \\ & X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge \\ & ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 \\ & X2) \wedge ((v4_rlvect_1 X2) \wedge ((v4_vectsp_2 X2 X0) \wedge (l1_vectsp_2 X2 X0))))))) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X2)) \Rightarrow (\forall X4.(m1_rmod_2 \\ & X4 X0 X2) \Rightarrow ((r1_struct_0 X4 X3) \Rightarrow (k3_rmod_2 X0 X2 (k5_vectsp_2 X0 \\ & X2 X1 X3) X4 = u1_struct_0 X4)))))) \end{aligned}$$