

t128_zmodul01
(TMZbgZZG2Mngv9nY55fEpuUi96rkcmFew4x)

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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 $v2_zmodul01 : \iota \Rightarrow o$ be given. Let $v3_zmodul01 : \iota \Rightarrow o$ be given. Let $v4_zmodul01 : \iota \Rightarrow o$ be given. Let $v5_zmodul01 : \iota \Rightarrow o$ be given. Let $l1_zmodul01 : \iota \Rightarrow o$ be given. Let $v8_zmodul01 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_zmodul01 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m3_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\ & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_zmodul01 X1 X0) \Rightarrow (\forall X2.(m1_zmodul01 \\ & X2 X0) \Rightarrow ((r1_zmodul01 X0 X1 X2) \Rightarrow (m3_zmodul01 X2 X0 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge \\ & ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 \\ & X0) \wedge ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge \\ & (l1_zmodul01 X0)))))))))) \wedge (m1_zmodul01 X1 X0)) \Rightarrow (\forall X2. \\ & (m3_zmodul01 X2 X0 X1) \Rightarrow (m1_zmodul01 X2 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\ & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_zmodul01 X1 X0) \Rightarrow ((v8_zmodul01 \\ & X1 X0) \Rightarrow (\forall X2.(m1_zmodul01 X2 X0) \Rightarrow ((m3_zmodul01 X2 X0 X1) \Leftrightarrow \\ & (r1_zmodul01 X0 X2 X1)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\ & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1.(v8_zmodul01 X1 X0) \wedge (m1_zmodul01 \\ & X1 X0)) \Rightarrow (\forall X2.(m3_zmodul01 X2 X0 X1) \Rightarrow (m3_zmodul01 X1 X0 X2)) \end{aligned}$$