

t93_zmodul01

(TMQrBp5vgSnMHmwjebJBhZVBneAVW5vYowp)

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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 $m1_zmodul01 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\
 & ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v2_zmodul01 \\
 & X1) \wedge ((v3_zmodul01 X1) \wedge ((v4_zmodul01 X1) \wedge ((v5_zmodul01 X1) \wedge \\
 & (l1_zmodul01 X1)))))))))) \Rightarrow (\forall X2. (m1_zmodul01 X2 X1) \Rightarrow (\\
 & \forall X3. (m1_zmodul01 X3 X1) \Rightarrow ((r1_struct_0 (k6_zmodul01 X1 \\
 & X2 X3) X0) \Leftrightarrow (\exists X4. (m1_subset_1 X4 (u1_struct_0 X1)) \wedge (\exists X5. \\
 & (m1_subset_1 X5 (u1_struct_0 X1)) \wedge ((r1_struct_0 X2 X4) \wedge ((r1_struct_0 \\
 & X3 X5) \wedge (X0 = k3_rlvect_1 X1 X4 X5)))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\
 & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\
 & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
 & (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_zmodul01 \\
 & X3 X0) \Rightarrow (\neg (k5_zmodul01 X0 X1 X3 = k5_zmodul01 X0 X2 X3) \wedge (\forall X4. \\
 & (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\neg (r1_struct_0 X3 X4) \wedge (k3_rlvect_1 \\
 & X0 X1 X4 = X2))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\
& ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_zmodul01 \\
& X3 X0) \Rightarrow ((r1_struct_0 X3 X1) \Leftrightarrow (k5_zmodul01 X0 X2 X3 = k5_zmodul01 \\
& X0 (k3_rlvect_1 X0 X2 X1) X3))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v2_zmodul01 X0) \wedge ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 \\
& X0) \wedge (l1_zmodul01 X0)))))))))) \wedge ((m1_zmodul01 X1 X0) \wedge (m1_zmodul01 \\
& X2 X0))) \Rightarrow (k6_zmodul01 X0 X1 X2 = k6_zmodul01 X0 X2 X1)
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\
& ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_zmodul01 X1 X0) \Rightarrow (\forall X2.(m1_zmodul01 \\
& X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((r1_struct_0 \\
& X1 X3) \vee (r1_struct_0 X2 X3)) \Rightarrow (r1_struct_0 (k6_zmodul01 X0 X1 X2) \\
& X3))))))
\end{aligned}$$