

t141_zmodul01 (TMZkLGQcJzrFDkGE- CUf5fUPGAhFZWWiEWTPy)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\ & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_zmodul01 X1 X0) \Rightarrow (\forall X2.(m1_zmodul01 \\ & X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_zmodul01 \\ & X0 X1 X2) \Rightarrow (k2_domain_1 (u1_struct_0 X0) (u1_struct_0 X0) (k9_zmodul01 \\ & X0 X3 X1 X2) = k3_domain_1 (u1_struct_0 X0) (u1_struct_0 X0) (k9_zmodul01 \\ & X0 X3 X2 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\ & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1.((v8_zmodul01 X1 X0) \wedge (m1_zmodul01 \\ & X1 X0)) \Rightarrow (\forall X2.(m3_zmodul01 X2 X0 X1) \Rightarrow ((r1_zmodul01 X0 X2 \\ & X1) \wedge (r1_zmodul01 X0 X1 X2)))) \end{aligned} \tag{2}$$

Assume the following.

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

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_zmodul01 X0) \wedge \\
& ((v3_zmodul01 X0) \wedge (v4_zmodul01 X0) \wedge (v5_zmodul01 X0) \wedge (l1_zmodul01 \\
& X0)))))) \Rightarrow (\forall X1. ((v8_zmodul01 X1 X0) \wedge (m1_zmodul01 \\
& X1 X0) \Rightarrow (\forall X2. (m3_zmodul01 X2 X0 X1) \Rightarrow (\forall X3. (m1_subset_1 \\
& X3 (u1_struct_0 X0) \Rightarrow (k2_domain_1 (u1_struct_0 X0) (u1_struct_0 \\
& X0) (k9_zmodul01 X0 X3 X1 X2) = k3_domain_1 (u1_struct_0 X0) (u1_struct_0 \\
& X0) (k9_zmodul01 X0 X3 X2 X1))))))
\end{aligned}$$