

l138_zmodul01

(TMXeuqcr3K21CxQKCtbyTMr24jJ2hfyNwSk)

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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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_zmodul01 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k3_xboole_0 X0 X1 = X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_zmodul01 X0) \wedge \\ & ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 X0) \wedge (l1_zmodul01 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_zmodul01 X1 X0) \Rightarrow (\forall X2. (m1_zmodul01 \\ & X2 X0) \Rightarrow (r1_tarski (u1_struct_0 X1) (u1_struct_0 (k6_zmodul01 \\ & X0 X1 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v2_zmodul01 X0) \wedge ((v3_zmodul01 X0) \wedge ((v4_zmodul01 X0) \wedge ((v5_zmodul01 \\ & X0) \wedge (l1_zmodul01 X0)))))))))) \wedge ((m1_zmodul01 X1 X0) \wedge (m1_zmodul01 \\ & X2 X0))) \Rightarrow ((v1_zmodul01 (k7_zmodul01 X0 X1 X2)) \wedge (m1_zmodul01 (\\ & k7_zmodul01 X0 X1 X2) X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v13_algstr_0 \\
& X0) \wedge ((v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge \\
& ((v2_zmodul01 X0) \wedge (v3_zmodul01 X0) \wedge (v4_zmodul01 X0) \wedge (v5_zmodul01 \\
& X0) \wedge (l1_zmodul01 X0)))))) \wedge ((m1_zmodul01 X1 X0) \wedge (m1_zmodul01 \\
& X2 X0)) \Rightarrow ((v1_zmodul01 (k6_zmodul01 X0 X1 X2)) \wedge (m1_zmodul01 (\\
& k6_zmodul01 X0 X1 X2) X0))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_zmodul01 X0) \wedge \\
& ((v3_zmodul01 X0) \wedge (v4_zmodul01 X0) \wedge (v5_zmodul01 X0) \wedge (l1_zmodul01 \\
& X0)))))) \Rightarrow (\forall X1. (m1_zmodul01 X1 X0) \Rightarrow (\forall X2. (m1_zmodul01 \\
& X2 X0) \Rightarrow (\forall X3. ((v1_zmodul01 X3) \wedge (m1_zmodul01 X3 X0)) \Rightarrow ((\\
& X3 = k7_zmodul01 X0 X1 X2) \Leftrightarrow (u1_struct_0 X3 = k3_xboole_0 (u1_struct_0 \\
& X1) (u1_struct_0 X2))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_zmodul01 X0) \wedge \\
& ((v3_zmodul01 X0) \wedge (v4_zmodul01 X0) \wedge (v5_zmodul01 X0) \wedge (l1_zmodul01 \\
& X0)))))) \Rightarrow (\forall X1. (m1_zmodul01 X1 X0) \Rightarrow (\forall X2. (m1_zmodul01 \\
& X2 X0) \Rightarrow (u1_struct_0 (k7_zmodul01 X0 X1 (k6_zmodul01 X0 X1 X2)) = \\
& u1_struct_0 X1)))
\end{aligned}$$