

t103\_zmodul01  
(TMQrSqoodf6osYG4g4QyfgYiCku6CFvUfmS)

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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  $v1\_zmodul01 : \iota \Rightarrow o$  be given. Let  $m1\_zmodul01 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_zmodul01 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (X2 = k3\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 X0) \wedge (v2\_rlvect\_1 \\ X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge (v2\_zmodul01 X0) \wedge \\ ((v3\_zmodul01 X0) \wedge (v4\_zmodul01 X0) \wedge (v5\_zmodul01 X0) \wedge (l1\_zmodul01 \\ X0)))))) \Rightarrow (\forall X1. (m1\_zmodul01 X1 X0) \Rightarrow (\forall X2. (m1\_zmodul01 \\ X2 X0) \Rightarrow (\forall X3. ((v1\_zmodul01 X3) \wedge (m1\_zmodul01 X3 X0)) \Rightarrow (( \\ X3 = k7\_zmodul01 X0 X1 X2) \Leftrightarrow (u1\_struct\_0 X3 = k3\_xboole\_0 (u1\_struct\_0 \\ X1) (u1\_struct\_0 X2)))))) \end{aligned} \quad (2)$$

**Theorem 1**

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 X0) \wedge (v2\_rlvect\_1 \\ X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge (v2\_zmodul01 X0) \wedge \\ ((v3\_zmodul01 X0) \wedge (v4\_zmodul01 X0) \wedge (v5\_zmodul01 X0) \wedge (l1\_zmodul01 \\ X0)))))) \Rightarrow (\forall X1. ((v1\_zmodul01 X1) \wedge (m1\_zmodul01 X1 \\ X0)) \Rightarrow (k7\_zmodul01 X0 X1 X1 = X1)) \end{aligned}$$